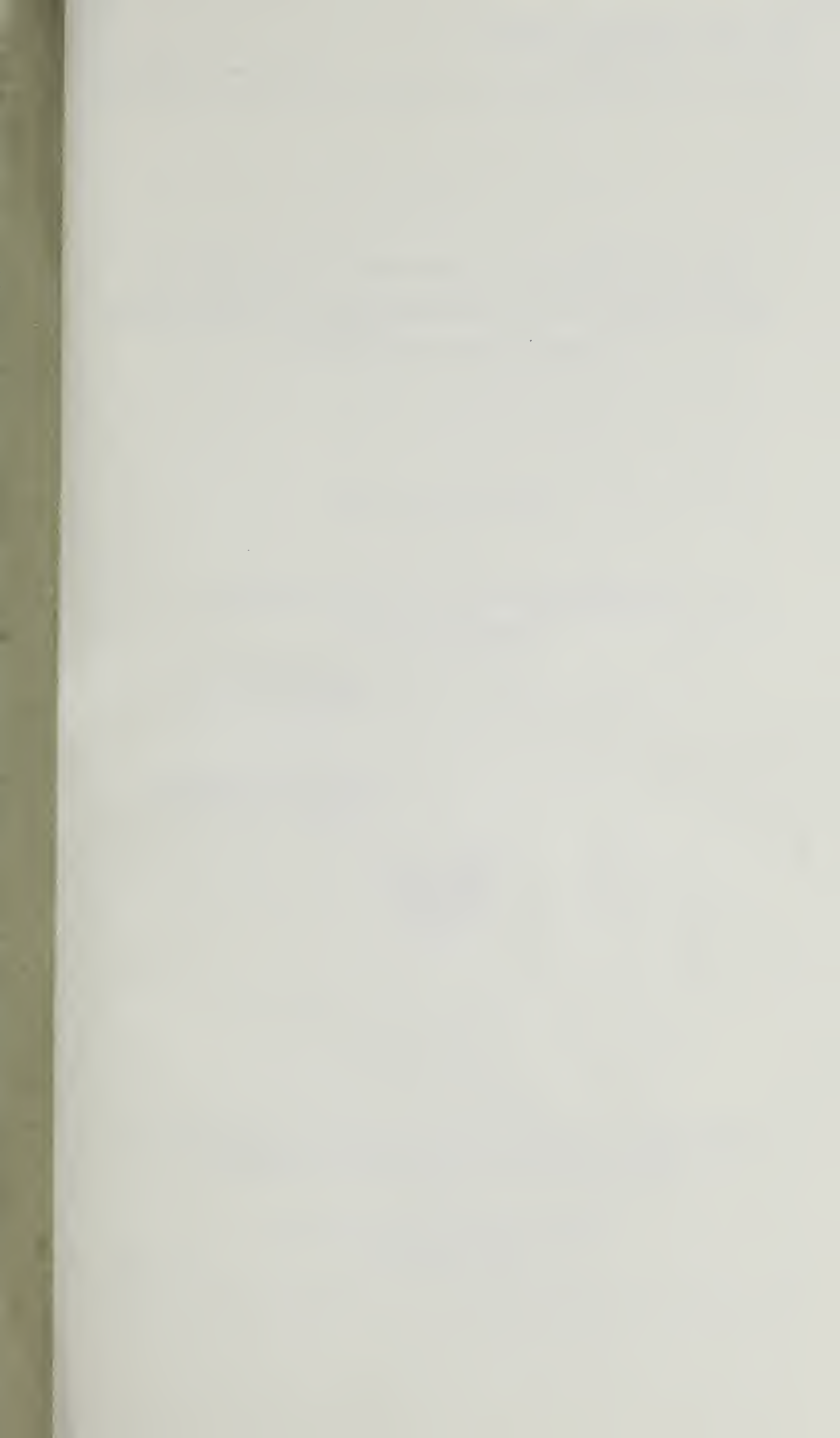


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AIR TRAFFIC CONTROL FACILITIES AND  
EQUIPMENT REQUIREMENTS TO MEET THE  
NEEDS OF THE 1970'S

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FIFTH REPORT

BY THE

COMMITTEE ON GOVERNMENT  
OPERATIONS

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DECEMBER 16, 1971.—Committed to the Committee of the Whole House  
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## LETTER OF TRANSMITTAL

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HOUSE OF REPRESENTATIVES,  
*Washington, D.C., December 16, 1971.*

HON. CARL ALBERT,  
*Speaker of the House of Representatives,*  
*Washington, D.C.*

DEAR MR. SPEAKER: By direction of the Committee on Government Operations, I submit herewith the committee's fifth report to the 92d Congress. The committee's report is based on a study made by its Government Activities Subcommittee.

CHET HOLIFIELD, *Chairman.*

(III)





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## AIR TRAFFIC CONTROL FACILITIES AND EQUIPMENT REQUIREMENTS TO MEET THE NEEDS OF THE 1970'S

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DECEMBER 16, 1971—Committed to the Committee of the Whole House on the  
State of the Union, and ordered to be printed

---

Mr. HOLIFIELD, from the Committee on Government Operations,  
submitted the following

### FIFTH REPORT

#### BASED ON A STUDY BY THE GOVERNMENT ACTIVITIES SUBCOMMITTEE

On December 8, 1971, the Committee on Government Operations approved and adopted a report entitled "Air Traffic Control Facilities and Equipment Requirements To Meet the Needs of the 1970's." The chairman was directed to transmit a copy to the Speaker of the House.

#### I. INTRODUCTION

On July 16, 1970, the Committee on Government Operations submitted a report to the House entitled "Problems Confronting the Federal Aviation Administration in the Development of an Air Traffic Control System for the 1970's." Among the recommendations contained in that report was that the "Federal Aviation Administrator must reappraise the statement of requirements for air traffic control research and development and facilities and equipment." It was the committee's conclusion, after an authoritative investigation stretching over a period of more than 2 years, that the FAA determined its requirements on the basis of expected funding rather than actual needs. Under this method for determining funding requests to be submitted to the Congress, it has been next to impossible for the Congress to obtain a meaningful and accurate understanding of FAA's needs for facilities and equipment and research and development funds for air traffic control.

The FAA response is that all aviation interests must equitably be weighted and that the current criteria for installation of terminal navigational aids are considered to be in balance when compared alongside the total FAA program. They state a continuing review and update of these criteria is made as the level of aviation activity increases. FAA considers the dollar amounts appropriated for the F. & E. program since passage of the Airport/Airways Development Act of 1970 to be reasonable.



In the committee's earlier report we stated:

The committee has three problems with agency activities in the formulation of [air traffic control] requirements. First, FAA statements of requirement have been confusing. Second, the reliability of the agency estimate of the facilities and equipment requirement is questionable. Third, FAA criteria governing the installation of air traffic control systems at airports are too conservative.

As independent support of the committee's conclusion, most of the Nation's airports with regularly scheduled commercial traffic or a high volume of general aviation traffic do not have a full complement of control towers, air surveillance radars, and instrument landing systems currently available to provide air safety. In our July 1970 report, we stated:

At present, there are approximately 10,000 airport facilities in the United States, varying in size and capacity from O'Hare Field in Chicago, to small rural airports which are little more than cow pastures. Of these 10,000 airports, 585 handle regularly scheduled commercial aircraft, and there are perhaps a dozen or more devoted exclusively to general aviation and which have a significant traffic volume. The development of optimum air traffic control capability at these 600 airports must be FAA's primary objective.

At the present time, of these 600 airports, 330 have control towers; 121 have air surveillance radars; and 250 have instrument landing systems. Under FAA criteria (based upon various measures of traffic volume), by 1976, 435 of these 600 airports should have control towers; 214 should have air surveillance radar systems; and 469 should have instrument landing systems.

As a tragic commentary on these deficiencies, there have been commercial aircraft accidents in Huntington, W. Va., and in New Haven, Conn., since the submission of our July 1970 report to the Congress. These accidents may have been avoided had these two airports in question been equipped with instrument landing systems.

There has been a significant increase in the funds available to FAA for facilities and equipment in recent years following enactment of the Airport and Airway Development Act. The following schedule identifies selected terminal facility establishment projects which were budgeted in the year indicated on a full funding basis. The funding provided for equipment procurement, provisioning, and related construction and installation necessary to complete each project. Generally, funds are obligated the first year for equipment contracts only. Construction and installation work occurs in the following years as equipment is delivered from the contractors. Thus the funds programed for any given project would be obligated over a number of years.



## FACILITIES AND EQUIPMENT FUNDS APPROPRIATED

[Dollars in thousands]

Program by activities	1968	1969	1970	1971	1972					
1. Air route traffic control centers:										
a. Long-range radar.....	\$2,618	\$21,008	\$2,000		\$9,158					
b. Automation equipment.....	14,950	59,300	134,000	\$190,000	106,300					
c. Other center facilities.....	1,872	13,998	9,600		14,144					
2. Airport traffic control towers:										
a. Terminal area radar.....	6,685	12,326	38,828	2,775	79,759					
b. Terminal area automation.....	12,860	2,014		23,675	55					
c. Other tower facilities.....	1,546	200	22,480	2,530	24,327					
3. Flight service facilities:										
a. Flight service stations.....	976		2,981		573					
b. International flight service stations.....	68		279		613					
4. Air navigation facilities:										
a. VORTAC.....	68		1,800		4,273					
b. Low/medium frequency facilities.....					281					
c. Instrument landing systems.....	7,575	10,151	11,332	15,040	8,924					
d. Visual aids.....		948		3,450						
5. Housing, utilities and miscellaneous facilities.....	765	55	70	530	10,340					
6. Aircraft and related equipment.....	3,632				1,058					
7. Development, test, and evaluation facilities.....	385				1,270					
Engineering support.....					140,734					
Total.....	54,000	120,000	224,000	238,000	301,809					
1. Amounts included above for terminal facilities.....	28,666	25,639	72,640	47,470	113,065					
	1968		1969		1970		1971		1972	
	Num-ber	Amount	Num-ber	Amount	Num-ber	Amount	Num-ber	Amount	Num-ber	Amount
2. Selected terminal facilities (included above):										
Towers.....					54	\$10,800			6	\$2,660
ASR.....	7	\$4,200	6	\$6,600	23	24,500			31	59,175
ILS.....	24	6,900	43	6,024	50	6,132	56	\$14,577		

<sup>1</sup> Engineering support activities transferred from R. & D. to F. & E. in fiscal year 1972. According to FAA, it became apparent that certain R. & D. effort was becoming less developmental in nature and more implementation oriented. A new activity entitled "Technical/Specialized F. & E. Assistance Programs" or more simply engineering support was established. This activity is devoted primarily to providing the technical and specialized assistance required in the progressive replacement of obsolescent traffic control hardware with computerized and other advanced equipment at hundreds of airports, traffic control centers and ground-based navigational facilities throughout the United States. The installation engineering support required in this process requires the establishment and maintenance of engineering groups at the National Aviation Facilities Experimental Center (NAFEC) as well as at its headquarters. These groups design and provide special test equipment to measure the operational effectiveness of newly installed equipment. Prototype equipments are used to evaluate engineering changes which are generated during nationwide installation of production equipment at operating sites. Such evaluations are required to insure the timely provision of "fixes" required by the variety of environmental and man/machine interface problems encountered in the initial stages of field operation.

Under the most recent version of the FAA's 10-year plan, the number of airports with towers will be increased from the present 335 to a total of 525. Airports with surveillance radars will increase from 125 to 273. And, the number of instrument landing systems (some airports have ILS systems on more than one runway) will increase from the present 310 to 635.<sup>1</sup>

Where the present increases in air traffic control facilities scheduled for the next fiscal year, or even over a 2- or 3-year period, there would be less basis for concern. However, it is evident, on the basis of FAA's present program, that many airports with regularly scheduled commercial traffic or a significant volume of general aviation traffic will operate without towers, surveillance radars, and instrument landing systems for many years to come.

The increase in the number of instrument landing systems is encouraging. From the period 1968 through 1972, a total of 173 ILS's are programmed and a total of 635 are planned by 1981. However, the

<sup>1</sup> Footnote on following page.



inadequacy of FAA's present 10-year program becomes evident when one considers that the increase will take place over a 10-year period during which additional airports will undoubtedly qualify for this equipment.

FAA continues to operate under arbitrary funding guidelines of the Office of Management and Budget that portend only the most tragic consequences. These guidelines do not allow the agency to request of the Congress the funds needed to provide for the facilities and equipment requirements that should be installed at this time to reflect optimum safety at the Nation's airports during the 1970's.

During the last decade, increases in air traffic far exceeded those predicted by FAA. Once the present recession passes and business activity again reaches a normal rate, it can be expected that air traffic will once more begin to climb. During the remainder of the 1970's and concurrently with this continuing increase in air traffic, it is essential that the airports of the Nation that handle regularly scheduled commercial traffic or a significant volume of general aviation traffic have the air traffic control facilities and equipment that they need to operate in an environment of optimum air safety.

Because of FAA's refusal or inability to develop an authoritative statement of the Nation's air traffic control facilities and equipment requirement, the committee has sought to devise a means by which an authoritative statement of this requirement, reflecting the needs of the 1970's, could be determined. The schedules that are contained in this report were developed for this purpose.

We question the FAA's traffic volume criteria for the installation of air traffic control facilities and equipment at the Nation's airports. The criteria we suggest are that all airports with regularly scheduled commercial traffic or a significant volume of general aviation traffic must have control towers, surveillance radars, and instrument landing systems. We also reject FAA's 10-year "level funding" implementation program. Our need for lifesaving air traffic control equipment at the Nation's airports is today rather than at some vague point during the next 10 years.

In the schedule contained in this report, the committee has developed, with the aid of General Accounting Office auditors, a maximum requirement for the Nation's 600 airports falling within the category described above. Standard cost estimates for towers, surveillance

<sup>1</sup> The table follows:

*Towers, surveillance radar and instrument landing systems included in FAA's 10-year airspace improvement program*

	Commis- sioned Dec. 31, 1970	Funded thru fiscal year 1971	Total planned by 1981
Towers.....	335	54	525
Air surveillance radars.....	125	34	273
Instrument landing systems.....	310	170	635

The tower figure of 335 includes 10 military and 33 non-Federal towers. The air surveillance radar figure includes 37 military radars. The instrument landing system figure includes 3 non-Federal systems.

The figures shown above include facilities and equipment at a number of general aviation air commuter and military airports not certificated by the Civil Aeronautics Board to accept air carrier traffic and which were not included in the 600 airports discussed in our July 1970 report. Therefore, the FAA data generally show a higher number of facilities and equipment currently commissioned or planned for installation by 1981 than would be applicable to the 600 airports referred to herein.



radars, instrument landing systems, and the related equipment that is involved were furnished by the FAA.

The schedules contain no compromises and were developed without regard to any limitations on available funds. They do not reflect any specific evaluations of individual airports. Nor do the schedules consider the use or development of less expensive facilities and equipment that might logically be used at lower volume airports but which would nevertheless provide for optimum safety in operations.

The purpose of this report is to make these schedules available to the FAA as well as all segments of the aviation industry and others that might be specifically interested in the subject. The Department of Transportation has been requested to provide the committee with a reconciliation of these schedules with the facilities and equipment program for the coming fiscal year. In addition, the Department has been invited to make alterations or adjustments in the schedules, provided they are made on an independent basis and each is supported by a detailed explanation.

By this means, the committee and the Congress as a whole, can reach authoritative and intelligent conclusions as to the Nation's needs for air traffic control equipment at the Nation's airports.

Included as an appendix in this report is a letter the Air Line Pilots Association addressed to the FAA Administrator on November 1, 1971, and an accompanying study entitled "ALPA Proposal for Accelerated Installation of Airport Facilities—October 1971." This study closely parallels the work of this committee as reflected in the accompanying schedules. However, there are some differences in criteria, as well as in the forming of the data that is involved. In addition, the Air Line Pilots Association study constitutes a special determination of the requirement whereas the schedules the committee has developed contain data that has not been refined and evaluated as a result of an individual analysis of each airport. The committee schedules, however have the advantage of flexibility. If placed on a computer, as they most certainly should be by FAA, it would be possible to make numerous adjustments reflecting various approaches and to determine overall cost of funding alternative programs.

Schedule I lists the 600 largest airports in the country, including the amount of traffic that passed through each in fiscal year 1970. It shows which airports have control towers, radar, and instrument landing systems, and the cost of providing these facilities to each airport which does not have them. This schedule includes airports which qualify for these facilities under present FAA criteria and those which do not.

Schedule II contains only those 77 airports which meet the FAA requirements for receiving towers, or radars, or instrument landing systems. It gives the cost of making these facilities available for each airport. None of the airports listed here had been budgeted to receive these facilities in fiscal 1972, or at any specific future date.

Schedule III lists 210 airports which qualify for towers or radar or instrument landing systems. Funds have been allocated in the amounts shown during fiscal years 1968–71 for these facilities to be installed, but the installations have not yet been completed.

A summary of the maximum requirement determined on the basis of the committee's criteria but using standard cost estimates furnished by the FAA for the 600 airports is as follows:



[Amounts in millions]

Airports classified by number of itinerant operations	Towers	Radars	Landing systems	Total
Potential additional needs for terminal facilities and equipment not funded or programed (schedule I): <sup>1</sup>				
100,000 or more.....	\$28.8	\$84.5	\$11.0	\$124.3
99,999 to 50,000.....	54.1	157.8	12.5	224.4
49,999 to 10,000.....	305.7	592.3	69.3	967.3
9,999 or less.....	158.6	263.2	45.8	467.6
Total.....	547.2	1,097.8	138.6	1,783.6
Terminal facilities and equipment funded (schedule III).....	6.8	69.7	23.1	99.6
Terminal facilities and equipment included in FAA 1972 budget (schedule IV).....	0.8		0.3	1.1
Total.....	554.8	1,167.5	162.0	1,884.3

<sup>1</sup> Airports and the cost of the terminal facilities and equipment which presently qualify for additional facilities and equipment under FAA "Traffic Volume" criteria are included in schedule I, but are also listed separately in schedule II.

## II. DETAILED EXPLANATION OF SCHEDULES

### Schedule I

Schedule I contains a listing, by airport, of the potential additional costs, after elimination of the estimated costs of improvements already funded or included in FAA's fiscal year 1972 budget, to equip the selected 600 airports on the basis of the data, assumptions, and cost estimates previously described. The data contained in the schedule is summarized below.

Classification of airports by number of itinerant operations	Number of airports	Estimated potential additional cost for terminal facilities and equipment	Percentage based on cost
100,000 and over.....	102	\$124,300,000	7
99,999 to 50,000.....	112	224,400,000	13
49,999 to 10,000.....	271	967,300,000	54
9,999 or less.....	115	467,600,000	26
Total.....	600	1,783,600,000	100

### CONTROL TOWERS

The total estimated cost for towers and related improvements is \$547.2 million (31 percent of the total cost). This amount applies to 498 of the 600 selected airports and covers (1) the installation of new radar control towers at 285 airports that had no towers, and (2) the upgrading to full radar control towers of existing or planned non-approach or nonradar approach control towers for 213 additional airports.

### SURVEILLANCE RADARS

The total estimated cost for radars and related improvements is \$1,097.8 million (62 percent of the total cost). This cost applies to 552 airports and covers (1) radars and automation capability for 471 airports that did not have this equipment, (2) an upgrading to a full complement of radar equipment for 26 airports with planned radars and automation equipment, (3) an upgrading to a full complement of radar equipment and automation equipment for one airport with planned radar, and (4) automation equipment for 54 additional airports with existing radars but without automation.



## LANDING SYSTEMS

The total estimated cost for landing systems (including approach lights) and related equipment and improvements is \$138.6 million (8 percent of the total cost). This cost applies to 590 airports and covers (1) instrument landing systems (including approach lights) for 250 airports, (2) distance measuring equipment for 577 airports, (3) runway visual range equipment for 482 airports, and (4) compass locators for 358 airports. The cost of \$138.6 million was computed to provide each airport with one instrument landing system. A significant cost increase would result if an instrument landing system were provided for each airport runway.

### Schedule II

A number of the 600 selected airports qualify under FAA criteria for certain facilities or equipment which are not presently installed or programed for installations.

An air carrier airport qualifies for a nonapproach control tower under FAA criteria if it has 24,000 or more total annual itinerant operations, and a general aviation airport qualifies if it has 50,000 or more such operations. To qualify for a new nonradar approach control tower, an airport generally must have a total of 80,000 annual aircraft operations and 20,000 annual instrument operations, or a total of 100,000 annual aircraft operations and 15,000 annual instrument operations.

Under FAA criteria, new radar towers are generally provided only as replacements for existing radar towers. FAA considers existing nonradar towers to be adequate for the type of radar being installed under its present criteria and, therefore, in contrast with one of the assumptions on which schedule I was developed, FAA does not upgrade existing towers to full radar towers. The towers assigned to qualifying airports in schedule II are nonapproach control towers, as provided by FAA criteria.

Before an airport can qualify for new surveillance radar under FAA criteria, it must have an approach control tower and 50,000 or more total annual itinerant operations of which 10,000 must be air carrier operations. (A general aviation airport cannot qualify for radar because of FAA's requirement for 10,000 air carrier operations.) FAA's present criteria provide for qualifying airports to receive surveillance radar with less display and communications capacity than that set forth in schedule I.

(Under prior FAA criteria, radars were installed with more displays and more communications equipment than would be provided under present FAA criteria. However, an airport was required to have an approach control tower, 100,000 or more annual itinerant operations, and 20,000 or more annual instrument operations before it could qualify for such radar.)

An airport qualifies for an instrument landing system (including approach lights) under FAA criteria if it has turbojet service or has 700 or more annual instrument approaches. The criteria state that a comprehensive survey should be made to determine whether the airport has adequate runways and runway lights.

The total cost of \$52.4 million shown in schedule II represents FAA's most recent typical cost estimates for the installation of the specific type towers, radars, and landing systems for which the listed airports



qualify under existing FAA criteria. This cost represents about 3 percent of the total cost shown (\$1,783.6 million) for the 600 airports in schedule I. Of the 77 airports listed in schedule II, 19 qualified for new nonapproach control towers at an estimated cost of \$7.9 million, 16 qualified for surveillance radars at a cost of \$31.7 million, and 45 qualified for instrument landing systems (including approach lights) at a cost of \$12.9 million.

Of the 45 airports shown in schedule II as qualifying for instrument landing systems, 27 airports qualified on the basis of having turbojet service, 13 airports qualified on the basis of having the required instrument approach traffic, and the remaining 5 qualified on the basis of having both turbojet service and the required instrument approach traffic.

### Schedule III

Schedule III shows the air traffic control terminal facilities and equipment (towers, radars, and landing systems) that have been funded by FAA for 210 of the 600 selected airports in the total amount of approximately \$99.6 million. For most of the airports listed, funds to cover the estimated costs of both the electronics equipment and the installation were reserved by FAA in fiscal years 1968 through 1971. Facilities and equipment are financed from a no-year appropriation.

Towers (nonapproach control) were funded for 34 airports in the amount of \$6.8 million (7 percent of total amount funded); radars and automation were funded for 78 airports in the amount of \$69.7 million (70 percent); and landing systems and related landing aids were funded for 118 airports in the amount of \$23.1 million (23 percent).

In some cases, schedule III includes different amounts for similar items of equipment, and these amounts, in turn, differ significantly from those shown in schedules I and II for similar items. According to FAA, these cost differences represent, for the most part, inflation attributable to the differences in applicable periods of time and some technical differences in the equipment involved.<sup>2</sup>

<sup>2</sup> According to FAA schedule III does not include the following nonapproach control towers (estimated cost is \$0.2 million per tower), which were funded in fiscal year 1970. List included Chico instead of Chino. New London is included in schedule III but is not included in FAA tower establishment program through fiscal year 1971:

El Monte, Calif., Imperial, Calif., Rivermore, Calif., San Diego (Brown), Calif., Carlsbad, Calif., Aspen, Colo., Greenwood Village, Colo., Danbury, Conn., Groton (Trumbull), Conn., Hartford, Conn., Fort Lauderdale, Fla. (Executive), Danville, Ill., Olathe, Kans. (Johnson City), Hagerstown, Md., Norwood, Mass., Ann Arbor, Mich., Farmingdale, N.Y. (Republic Field), Grand Forks, N. Dak., Cleveland, Ohio (Cuyahoga County), Knoxville, Tenn. (downtown), and Charlottesville, Va.

In the fiscal year 1968 through 1971 period, 36 ASR's (\$35.3 million) and 64 ARTS III systems were budgeted (\$64.1 million) for a total of \$99.4 million. ASR locations not included in the schedule are Chicago (Midway) (\$0.6 million) and Kahului Maui, Hawaii (\$1.1 million). In addition the following ARTS III locations (estimated cost is \$1 million per location), are not included in the schedule:

Santa Ana, Calif. (El Toro NAS), San Diego, Calif. (Miramar NAS), Oklahoma City, Okla. (Tinker AFB), El Paso, Tex., Portland, Oreg., Nashville, Tenn., Albany, N.Y., Dayton, Ohio (Wright-Patterson AFB), Salt Lake City, Utah, Birmingham, Ala., Tampa, Fla., Baltimore, Md., Orlando, Fla., Louisville, Ky., Omaha, Nebr., Albuquerque, N. Mex., Charlotte, N.C., Hartford, Conn., Rochester, N.Y., Syracuse, N.Y., Shreveport, La., Jacksonville, Fla., Providence, R.I. (Quonset Point NAS), Tucson, Ariz., Burbank, Calif., Milwaukee, Wis., Des Moines, Iowa, Riverside, Calif., Tulsa, Okla., Buffalo, N.Y., Sacramento, Calif. (McClellan AFB), FAA Academy, R. & D., and NAFEC SSF.

The schedule lists 118 ILS's and related landing aid items as funded. However, it does not include the following ILS locations (estimated total cost for the locations is \$5.9 million) now programed:

Los Angeles, Calif. (2 systems), Palmdale, Calif., Fulton County, Ga., Albany, Ga. (2 systems), Chicago, Ill. (O'Hare), Dayton, Ohio, Oklahoma City, Okla., Memphis, Tenn., Salt Lake City, Utah, Richmond, Va., Boston, Mass., New York, N.Y. (JFK), Philadelphia, Pa., Deadhorse, Alaska, Hoolehua, Hawaii, Guam, Mariana Islands, Lebanon, N.H., Pago Pago, Samoa, Dallas/Ft. Worth, Tex. (2 systems), Bethel, Alaska, Homer, Alaska, Nome, Alaska, Crescent City, Calif., Merced, Calif., Visalia, Calif., Durango, Colo., Ocala, Fla., and Moultrie, Ga.

A total of six tower establishments were budgeted in fiscal year 1972 at a total cost of \$2.66 million. The schedule does not include the following tower establishment locations (estimated total cost of these four tower projects is \$1.6 million):

Deadhorse, Alaska; East St. Louis, Ill.; Athens, Ga.; and Redding, Calif.



## Schedule IV

Schedule IV shows that nonapproach control towers were budgeted (1972) for two airports at an estimated cost of \$0.8 million, and that landing aid equipment (distance measuring equipment or runway visual range equipment) was budgeted for four airports at a cost of about \$0.3 million. As explained in a note to schedule IV, eight additional airports were budgeted in 1972 for replacement radars, but were excluded from the schedule because they already had radars.

### III. POTENTIAL ADDITIONAL NEEDS FOR CONTROLLERS AND MAINTENANCE TECHNICIANS

The installation of additional facilities and equipment on the scale provided in schedule I would significantly increase FAA's operating costs. On the basis of FAA's typical staff requirements for the operation of surveillance radar at a radar tower, additional work shifts, involving an estimated additional 13,587 controllers, might be required to operate and monitor the 498 radar additions and improvements reflected in schedule I. The potential additional needs for controllers and estimated related additional staffing costs are shown below:

Number of itinerant operations	Number of airports	Number of radar additions and improvements	Number of additional controllers	Estimated additional annual staffing cost
100,000 and over.....	102	36	803	\$12,000,000
99,999 to 50,000.....	112	88	1,598	23,800,000
49,999 to 10,000.....	271	259	7,513	110,400,000
9,999 or less.....	115	115	3,673	53,600,000
Total.....	600	498	13,587	199,800,000

On the basis of FAA's typical maintenance cost estimates, it also appears that it might cost an estimated additional \$102.5 million annually to maintain the additional terminal facilities and equipment. This estimate includes recognition of a potential need for 4,876 more technicians to handle the additional maintenance workload.

### IV. RECOMMENDATIONS

The FAA should make a qualitative evaluation of the contents of the schedules that are a part of this report and make whatever adjustments in the projected costs that the agency believes can be justified. Any adjustments in costs or other alterations in the schedules should be made on an individual basis and accompanied by a specific justification for the change.

In addition, the FAA should reconcile, to the extent possible, the cost estimates contained in this report with the agency's budgetary requests for facilities and equipment to be contained in the budget for fiscal year 1973 to be submitted to the Congress this coming spring.

### V. CONCLUSIONS

The accompanying schedules indicate that the present air traffic control facilities and equipment requirement for the Nation's airports with regularly scheduled commercial traffic or a significant volume of

general aviation traffic, could run as high as \$1,884,300,000. However, a thorough authoritative evaluation of the data contained in these schedules, based upon an individual study of each of the airports involved, could significantly reduce this cost. But, even a substantial reduction would still involve an annual outlay in funds of a much larger order of magnitude during the next 4 or 5 years than provided in the FAA's present 10-year level funding plan.

An airways system providing optimum safety for commercial, military and general aviation aircraft is essential to the continued growth of the Nation. Basic air traffic control facilities and equipment such as airport control towers, surveillance radars, and instrument landing systems are an absolute requirement if optimum safety in operations is to be maintained at any airport that handles commercial airliners, or a significant volume of general aviation or military traffic. Congress must have reliable data about the funding requirements to meet these needs.





**SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports**

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower		Radar			Instrument landing system			
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Potential needs not funded or programmed <sup>1</sup>	Has Radar	Radar service	Potential needs not funded or programmed <sup>2</sup>	Has ILS	Potential needs not funded or programmed <sup>3</sup>	Total potential needs not funded or programmed	
100,000 ITINERANT OPERATIONS AND OVER														
Alabama: Birmingham	Birmingham Municipal	153.0	48	×	9.7	×		×		\$250	×	\$77	\$327	
Alaska: Anchorage	Anchorage International	103.0	50	×	1.4	×	\$969		×	2,289	×	77	3,335	
Arizona:														
Phoenix	Phoenix Sky Harbor Municipal	277.0	87	×	.8	×		×		( <sup>4</sup> )		<sup>5</sup> 132	132	
Tucson	Tucson International	113.0	37	×	.1	×	969		×	2,289		<sup>5</sup> 132	3,390	
Arkansas: Little Rock	Adams Field	122.0	29	×	3.6	×		×		( <sup>4</sup> )	×	77	77	
California:														
Bakersfield	Kern Nol.	112.0	9	×	1.2	×	413			2,289	×	109	2,811	
Burbank	Lockheed Air Terminal	181.0	31	×	12.0	×		×		250	×	109	359	
Fresno	Fresno Air Terminal	124.0	17	×	3.0	×	413			<sup>6</sup> 219	×	77	709	
Fullerton	Fullerton Municipal <sup>7</sup>	143.0	2		3.9	×	969			2,289		<sup>6</sup> 418	3,676	
Hayward	Hayward Air Terminal <sup>7</sup>	133.0			.5	×	969		×	2,289		418	3,676	
Long Beach	Long Beach Municipal	291.0	10	×	12.8	×		×		250	×	77	327	
Los Angeles	Los Angeles International	566.0	438	×	73.0	×		×		( <sup>4</sup> )	×		0	
Oakland	Metropolitan Oakland International	238.0	73	×	8.9	×		×		( <sup>4</sup> )	×	77	77	
San Bernardino	Ontario International	117.0	26	×	9.9	×				( <sup>4</sup> )	×	77	77	
San Diego	Gillespie <sup>7</sup>	137.0				×	969		×	2,289	×	418	3,335	
Do	San Diego International	168.0	76	×	16.3	×	969			2,289		32	3,676	
San Francisco	San Francisco International	396.0	308	×	29.2	×	413			2,289	×	77	3,290	
San Jose	San Jose International	236.0	49	×	6.0	×	969			2,289	×	77	2,779	
Santa Ana/Laguna Beach	Orange County	233.0	18	×	10.4	×	969		×	2,289	×	100	3,335	
Santa Barbara	Santa Barbara Municipal	116.0	9	×	3.6	×	413			2,289	×	77	3,358	
Santa Monica	Santa Monica Municipal <sup>7</sup>	166.0	1		3.9	×	969			2,289		<sup>6</sup> 418	3,676	
Torrance	Torrance Municipal <sup>7</sup>	162.0			.9	×	969		×	2,289		<sup>6</sup> 418	3,676	
Van Nuys	Van Nuys <sup>7</sup>	320.0	1		4.0	×	969		×	2,289		<sup>6</sup> 386	3,644	
Colorado:														
Colorado Springs	Peterson Field	136.0	19	×	1.6	×		×		250	×	77	327	
Denver	Stapleton Field	315.0	172	×	10.7	×		×		( <sup>4</sup> )	×	77	77	
Connecticut: Hartford/Springfield/Westfield	Bradley Field	134.0	60	×	.6	×		×		250	×	77	327	
District of Columbia:														
Washington	Dulles International	145.0	64	×	8.6	×		×		( <sup>4</sup> )	×	77	77	
Do	Washington National	329.0	220	×	16.4	×		×		( <sup>4</sup> )	×	77	77	
Florida:														
Daytona Beach	Daytona Beach Municipal	121.0	13	×	1.2	×	413			<sup>6</sup> 2,289	×	77	2,779	
Fort Lauderdale	Fort Lauderdale/Hollywood International	301.0	46	×	3.3	×	413		×	<sup>6</sup> 469	×	109	991	
Miami	Miami International	354.0	261	×	10.1	×		×		( <sup>4</sup> )	×	77	77	
Do	New Tamiami <sup>7</sup>	124.0				×	969			2,289		418	3,676	
Opa Locka	Opa Locka <sup>7</sup>	260.0			.2	×	969		×	2,289		418	3,676	
Orlando	McCoy AFB	139.0		×	2.2	×		×		( <sup>4</sup> )	×	23	23	
Tampa/St. Petersburg/Clearwater	Tampa International	145.0	83	×	5.0	×		×		250	×	77	327	
West Palm Beach/Palm Beach	West Palm Beach International	171.0	44	×	2.1	×		×		( <sup>4</sup> )	×	77	77	
Georgia: Atlanta	Atlanta	430.0	378	×	33.1	×		×		250	×	77	327	
Hawaii: Honolulu	Honolulu International	271.0	129	×	9.4	×		×		( <sup>4</sup> )	×	100	100	
Illinois:														
Chicago	Midway	155.0	37	×	8.3	×		×		250	×	77	327	
Do	O'Hare International	670.0	634	×	56.1	×		×		( <sup>4</sup> )	×	77	77	
Indiana: Indianapolis	Wier Cook	183.0	91	×	15.0	×		×		( <sup>4</sup> )	×	77	77	
Iowa: Des Moines	Des Moines Municipal	126.0	35	×	4.3	×		×		250	×	77	327	
Kansas: Wichita	Wichita Municipal	185.0	41	×	4.1	×		×		250	×	77	327	
Kentucky: Louisville	Standiford Field	133.0	83	×	11.9	×		×		250	×	100	350	
Louisiana:														
Lafayette/New Iberia	Lafayette Municipal	102.0	12		1.6	×	413			<sup>6</sup> 2,289	×	109	2,811	
New Orleans	Moisant International	155.0	117	×	13.5	×		×		( <sup>4</sup> )	×	77	77	
Maryland: Baltimore	Friendship International	227.0	131	×	11.8	×		×		250	×	77	327	
Massachusetts:														
Bedford	Laurence G. Hanscom Field <sup>7</sup>	149.0	1		1.8	×	969		×	2,289	×	109	3,367	
Boston	General Edward Lawrence Logan International	309.0	217	×	25.2	×		×		( <sup>4</sup> )	×	77	77	
Michigan:														
Detroit	Detroit City Airport	153.0	34		6.1	×	413		×	2,289	×	109	2,811	
Do	Metropolitan Wayne	306.0	220	×	18.4	×		×		( <sup>4</sup> )	×	77	77	
Minnesota:														
Flying Cloud	Flying Cloud <sup>7</sup>	126.0			.5	×	969		×	2,289		418	3,676	
Minneapolis	Minneapolis/St. Paul International	237.0	146	×	14.3	×		×		( <sup>4</sup> )	×		0	
Missouri:														
Kansas City	Kansas City Municipal	228.0	136	×	11.8	×		×		( <sup>4</sup> )	×	77	77	
St. Louis	Lambert Field	320.0	192	×	16.0	×		×		( <sup>4</sup> )	×	100	100	
Nebraska: Omaha	Omaha Municipal	143.0	47	×	5.1	×	969		×	2,289		77	3,335	
Nevada:														
Las Vegas	McCarran Field	185.0	92	×	.5	×		×		( <sup>4</sup> )	×	132	132	
Reno	Reno Municipal	111.0	25	×	2.3	×		×		250	×	32	282	
New Jersey: Teterboro	Teterboro <sup>7</sup>	166.0	1		4.1	×	969		×	2,289		109	3,367	
New Mexico: Albuquerque	Sunport/Kirtland AFB Municipal	174.0	46	×	1.9	×		×		250	×		250	

See footnotes at end of table.



**SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued**

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower	Radar		Instrument landing system			Total potential needs not funded or programmed	
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Potential needs not funded or programmed <sup>1</sup>	Has	Radar service	Potential needs not funded or programmed <sup>2</sup>	Has ILS		Potential needs not funded or programmed <sup>3</sup>
100,000 ITINERANT OPERATIONS AND OVER—Con.													
New York:													
Albany	Albany County	111.0	50	×	10.4	×	—	×	—	\$250	×	<sup>10</sup> \$77	\$327
Buffalo/Niagara Falls	Greater Buffalo International	139.0	82	×	23.1	×	—	×	—	250	×	77	327
Islip, Long Island	McArthur	123.0	9	×	2.2	×	\$969	×	×	2,289	×	<sup>10</sup> 77	3,335
New York	John F. Kennedy International	413.0	356	×	23.6	×	—	×	—	250	×	—	250
Do	LaGuardia	333.0	265	×	25.9	×	413	×	×	2,289	×	<sup>10</sup> 77	2,779
Do	Newark	243.0	192	×	17.3	×	—	×	—	250	×	77	327
Rochester	Rochester Municipal	132.0	61	×	8.3	×	—	×	—	250	×	77	327
Syracuse	Clarence and Hancock	121.0	61	×	5.7	×	—	×	—	250	×	77	327
White Plains	Westchester County	166.0	7	×	5.3	×	—	×	—	250	×	100	350
North Carolina:													
Charlotte	Douglas Field	154.0	63	×	8.6	×	—	×	—	250	×	77	327
Greensboro/High Point/Winston Salem	Friendship	113.0	31	×	5.8	×	—	×	—	250	×	77	327
Raleigh/Durham	Raleigh-Durham	109.0	32	×	8.5	×	413	×	—	<sup>4</sup> 219	×	77	709
Ohio:													
Cincinnati	Greater Cincinnati	135.0	93	×	11.2	×	—	×	—	( <sup>4</sup> )	×	<sup>10</sup> 77	77
Cleveland	Cleveland-Hopkins International	241.0	145	×	20.9	×	—	×	—	( <sup>4</sup> )	×	23	23
Columbus	Port Columbus	232.0	64	×	15.4	×	—	×	—	( <sup>4</sup> )	×	100	100
Dayton	Dayton Municipal	158.0	59	×	11.4	×	969	×	×	2,289	×	77	3,335
Toledo	Toledo Express	115.0	21	×	4.9	×	—	×	—	250	×	77	327
Oklahoma:													
Oklahoma City	Will Rogers Field	141.0	50	×	6.1	×	969	—	×	2,289	×	77	3,335
Tulsa	Tulsa International	165.0	49	×	8.5	×	—	×	—	250	×	77	327
Oregon: Portland	Portland International	165.0	92	×	14.4	×	—	×	—	250	×	77	327
Pennsylvania:													
Philadelphia	Philadelphia International	275.0	191	×	24.9	×	—	×	—	( <sup>4</sup> )	×	100	100
Pittsburgh	Greater Pittsburgh	260.0	187	×	30.7	×	—	×	—	( <sup>4</sup> )	×	77	77
Puerto Rico: San Juan	Puerto Rico International	205.0	141	×	1.0	×	—	×	—	( <sup>4</sup> )	×	109	109
Rhode Island: Providence	T. F. Greene	136.0	55	×	6.5	×	969	—	×	2,289	×	77	3,335
South Carolina: Charleston	Charleston Municipal	160.0	28	×	7.2	×	—	×	—	250	×	77	327
Tennessee:													
Memphis	Memphis Metropolitan	272.0	115	×	10.6	×	—	×	—	( <sup>4</sup> )	×	77	77
Nashville	Nashville Metropolitan	158.0	64	×	10.5	×	—	×	—	250	×	77	327
Texas:													
Austin	Robert Mueller	122.0	33	×	5.6	×	969	—	×	2,289	×	77	3,335
Dallas/Fort Worth	Love Field	426.0	299	×	14.7	×	—	×	—	( <sup>4</sup> )	×	77	77
El Paso	El Paso International	156.0	38	×	2.1	×	—	×	—	250	×	77	327
Fort Worth	Meacham Field <sup>7</sup>	156.0	7	×	1.9	×	969	—	×	2,289	×	77	3,335
Houston	Houston Intercontinental	185.0	139	×	7.4	×	—	×	—	( <sup>4</sup> )	×	77	77
San Antonio	San Antonio International	197.0	63	×	9.2	×	—	×	—	( <sup>4</sup> )	×	77	77
Wichita Falls	Sheppard AFB	124.0	5	×	1.1	×	—	×	—	( <sup>4</sup> )	×	—	0
Utah: Salt Lake City	Salt Lake City International	204.0	68	×	10.9	×	—	×	—	250	×	77	327
Virgin Islands: Charlotte Amalie/St. Thomas	Harry S. Truman	103.0	16	×	1.0	×	413	—	—	<sup>9</sup> 2,289	—	<sup>5</sup> 132	2,834
Virginia:													
Norfolk	Norfolk Municipal	102.0	42	×	4.2	×	—	×	—	( <sup>4</sup> )	×	109	109
Richmond	Byrd Field	137.0	29	×	6.2	×	—	×	—	250	×	109	359
Washington:													
Seattle-Tacoma	Boeing Field	193.0	14	×	6.4	×	969	—	×	2,289	×	109	3,367
Do	Seattle-Tacoma International	157.0	111	×	25.7	×	—	×	—	( <sup>4</sup> )	×	77	77
Wisconsin:													
Madison	Madison Municipal	108.0	28	×	3.1	×	—	×	—	( <sup>4</sup> )	×	77	77
Milwaukee	General Mitchell	177.0	79	×	11.4	×	—	×	—	250	×	77	327
Total potential needs not funded or programmed for 100,000 and over itinerant operations category							28,768	—	—	84,444	—	11,050	124,262

See footnotes at end of table.







SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower		Radar		Instrument landing system			Total potential needs not funded or programmed
		Total itinerant operations	Air carrier itinerant operations	Turboprop service	Annual instrument approaches	Has tower	Potential needs not funded or programmed <sup>1</sup>	Has Radar	Radar service	Potential needs not funded or programmed <sup>2</sup>	Has ILS	Potential needs not funded or programmed <sup>3</sup>	
99,999 ITINERANT OPERATIONS TO 50,000													
Alabama:													
Dothan	Napier Field	83.0	9	×	3.6	×	\$969		×	\$2,289		<sup>6</sup> \$132	\$3,390
Huntsville	Huntsville-Madison County	79.0	20	×	3.4	×				<sup>6</sup> 250	×	109	359
Mobile	Bates Field	75.0	17	×	3.2	×				<sup>6</sup> 250	×	77	327
Montgomery	Dannelly Field	89.0	14	×	5.7	×	969		×	2,289	×	77	3,335
Alaska:													
Fairbanks	Fairbanks International	75.0	31	×	1.2	×	969		×	2,289	×	<sup>(1)</sup>	3,258
Kenai	Kenai Municipal	52.0	3	×	.2		<sup>12</sup> 969			2,289		<sup>6</sup> 418	3,676
Arkansas: Fort Smith	Fort Smith Municipal	60.0	15	×	1.7	×	413			<sup>6</sup> 219	×	109	741
California:													
Indio/Palm Springs	Palm Springs	70.0	13	×	.1	×	969			2,289		<sup>6</sup> 418	3,676
Modesto	City-County	72.0	3	×	.3	×	969			2,289		<sup>6</sup> 132	3,390
Oxnard/Ventura	Oxnard/Ventura County	78.0	4		2.0	×	413		×	2,289		<sup>6</sup> 418	3,120
Riverside/Ontario and San Bernardino	Riverside	74.0	4	×	1.4	×	969		×	2,289		<sup>6</sup> 418	3,676
Sacramento	Sacramento Metropolitan	71.0	35	×	3.0	×	969		×	2,289		109	3,367
Salinas/Monterey	Peninsula	94.0	13	×	.9	×			×	<sup>(1)</sup> 6	×	109	109
Santa Rosa	Sonoma County	67.0	3	×	1.6	×		×		250		<sup>6</sup> 132	382
Stockton	Stockton Metropolitan	65.0	6	×	.8		413			2,289	×	109	2,811
Colorado: Pueblo	Pueblo Memorial	53.0	8	×	1.0	×	413			2,289	×	109	2,811
Connecticut:													
Bridgeport	Bridgeport Municipal	92.0	7		2.6	×	969		×	2,289		<sup>6</sup> 11 55	3,313
New London	New London Trumbull	58.0	7		1.0		<sup>12</sup> 969		×	2,289		<sup>6</sup> 11 55	3,313
Delaware: Wilmington	Greater Wilmington	79.0	8	×	3.0	×	413		×	2,289	×	77	2,779
Florida:													
Fort Myers	Page Field	74.0	4	×	.5	×	413			2,289		<sup>6</sup> 132	2,834
Gainesville	Gainesville Municipal	57.0	1		2.7		<sup>12</sup> 969			2,289		<sup>6</sup> 132	3,390
Jacksonville	Jacksonville International	91.0	49	×	5.8	×		×		250	×	77	327
Melbourne	J.F.K. Memorial	85.0	10	×	.6	×	969		×	2,289		<sup>6</sup> 132	3,390
Pensacola	Pensacola Municipal	76.0	11	×	1.3	×	969		×	2,289	×	109	3,367
Sarasota/Bradenton	Sarasota/Bradenton	81.0	8	×	.8	×	969		×	2,289		<sup>6</sup> 13 109	3,367
Tallahassee	Tallahassee Municipal	75.0	11	×	3.5	×	413			<sup>6</sup> 2,289	×	109	2,811
Vero Beach	Vero Beach Municipal	64.0	1		.1		<sup>12</sup> 969			2,289		418	3,676
Georgia:													
Augusta	Bush Field	60.0	23	×	3.5	×	413			<sup>6</sup> 219	×	132	764
Columbus	Muskogee County	78.0	19	×	5.2			×		<sup>(9)</sup>	×	77	77
Macon	Macon Municipal	55.0	8	×	1.7	×	969		×	2,289	×	77	3,335
Savannah	Travis Field	91.0	12	×	3.8	×	413		×	<sup>6</sup> 2,289	×	77	2,779
Idaho: Boise	Boise Air Terminal	88.0	21	×	.9	×	413			<sup>6</sup> 219	×	100	732
Illinois:													
Champaign/Urbana	University of Illinois	79.0	11	×	2.0	×	413			<sup>6</sup> 2,289	×	109	2,811
Moline/Davenport	Quad City	82.0	24	×	2.5	×	413			<sup>6</sup> 219	×	77	709
Peoria	Peoria Municipal	87.0	23	×	2.7	×	413			<sup>6</sup> 219	×	77	709
Rockford	Greater Rockford	99.0	4	×	2.1	×	413			2,289	×	77	2,779
Springfield	Capital	97.0	18	×	2.1	×	413			<sup>6</sup> 219	×	77	709
Indiana:													
Evansville	Dress Memorial	68.0	15	×	2.2	×	413			<sup>6</sup> 2,289	×	109	2,811
Fort Wayne	Baer Field	97.0	19	×	4.2	×		×		250	×	77	327
Lafayette	Purdue Airport	51.0	9		1.6		<sup>12</sup> 969			2,289	×	109	3,367
South Bend	St. Joseph County	82.0	22	×	4.4	×				<sup>6</sup> 250	×		250
Terre Haute	Hullman	52.0	7	×	1.9	×	413			2,289	×	109	2,811
Iowa:													
Cedar Rapids	Cedar Rapids Municipal	57.0	19	×	2.2	×	413			<sup>6</sup> 219	×	77	709
Sioux City	Sioux City Municipal	73.0	18	×	2.3	×	413			<sup>6</sup> 219	×	77	709
Waterloo	Waterloo Municipal	53.0	14	×	1.7	×	413			<sup>6</sup> 2,289	×	77	2,779
Kansas: Topeka	Philip Ballard	72.0	12		1.4	×	413			<sup>6</sup> 2,289	×	109	2,811
Kentucky: Lexington/Frankfort	Allegheny	91.0	19	×	4.1	×				<sup>(4)</sup>	×	77	77
Louisiana:													
Baton Rouge	Ryan	74.0	19	×	3.3	×	413			<sup>6</sup> 219	×	109	741
Lake Charles	Lake Charles Municipal	59.0	11	×	2.0	×	413			<sup>6</sup> 2,289	×	109	2,811
Monroe	Selman Field	58.0	9	×	2.3	×	413			2,289	×	109	2,811
Shreveport	Greater Shreveport Municipal	60.0	37	×	5.7	×	969		×	2,289	×	77	3,335
Maine: Portland	Portland Municipal	63.0	16	×	2.5	×	413			<sup>6</sup> 2,289	×	109	2,811
Massachusetts:													
Hyannis	Barnstable Municipal	55.0	1	×	2.7	×	969		×	2,289	×	109	3,367
Worcester	Worcester Municipal	57.0	6	×	1.4	×	969			2,289	×	109	3,367
Michigan:													
Detroit	Willow Run	75.0	10		2.4	×	969		×	2,289	×	109	3,367
Flint	Bishop	91.0	17	×	2.4	×	413			<sup>6</sup> 219	×	77	709
Grand Rapids	Cascade	93.0	27	×	3.9	×	413			<sup>6</sup> 219	×	77	709
Kalamazoo	Kalamazoo Municipal	77.0	9	×	2.4	×	969			2,289	×	109	3,367
Lansing	Capital City	99.0	20	×	3.0	×	413			<sup>6</sup> 219	×	77	709
Muskegon	Muskegon County	54.0	9	×	2.5	×	413			2,289	×	77	2,779
Saginaw/Bay City/Midland	TriCity	60.0	17	×	2.5	×	413			<sup>6</sup> 219	×	77	709

See footnotes at end of table.



SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower	Radar			Instrument landing system			Total potential needs not funded or programed	
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Potential needs not funded or programed <sup>1</sup>	Has Radar	Radar service	Potential needs not funded or programed <sup>2</sup>	Has ILS	Potential needs not funded or programed <sup>3</sup>		
99,999 ITINERANT OPERATIONS TO 50,000—Con.														
Minnesota:														
Duluth/Superior	William-Johnson	54.0	14	×	3.0	×	-----	×	-----	\$250	×	\$77	\$327	
Rochester	Rochester Municipal	59.0	20	×	3.1	×	\$413	-----	-----	\$219	×	77	709	
Mississippi:														
Gulfport/Biloxi	Gulfport/Biloxi Municipal	72.0	9	×	1.3	×	413	-----	-----	2,289	-----	\$132	2,811	
Jackson	Jackson Municipal	67.0	32	×	5.3	×	-----	×	-----	250	×	77	327	
Missouri:														
Springfield	Springfield Municipal	60.0	13	×	1.6	×	413	-----	-----	\$2,289	×	109	2,811	
St. Joseph	Rosecrans Airport	55.0	2	-----	1.7	×	413	-----	-----	2,289	×	109	2,811	
Montana:														
Billings	Billings Municipal	74.0	27	×	1.7	×	413	-----	-----	\$219	×	77	709	
Great Falls	Great Falls International	58.0	18	×	1.6	×	969	-----	×	2,289	×	109	3,367	
Nebraska: Lincoln	Lincoln Municipal	97.0	14	×	1.5	×	413	-----	-----	\$219	×	109	741	
New Hampshire: Manchester/Concord	Grenier Field	64.0	7	×	2.1	×	413	-----	-----	2,289	×	132	2,834	
New Jersey: Trenton	Mercer County	79.0	7	-----	1.8	×	969	-----	×	2,289	×	109	3,367	
North Carolina:														
Asheville	Asheville	52.0	16	×	3.5	×	413	-----	-----	\$219	×	77	709	
Fayetteville	Grannis Field	65.0	16	×	1.7	×	413	-----	-----	\$219	×	77	709	
Winston/Salem	Smith-Reynolds	85.0	13	×	1.7	×	969	-----	×	2,289	×	77	3,335	
Wilmington	New Hanover County	57.0	14	×	1.8	×	413	-----	-----	\$2,289	×	77	2,779	
North Dakota: Fargo/Moorhead	Hector Municipal	58.0	13	×	1.7	×	413	-----	-----	\$219	×	77	709	
Ohio:														
Akron/Canton	Akron/Canton	86.0	17	×	3.4	×	-----	×	-----	250	×	77	327	
Cleveland	Burke Lakefront	67.0	2	×	4.1	×	969	-----	×	2,289	×	109	3,367	
Mansfield	Mansfield Municipal	52.0	7	-----	1.8	×	413	-----	-----	2,289	×	100	2,802	
Youngstown	Youngstown Municipal	68.0	15	×	6.1	×	-----	×	-----	(*)	×	77	77	
Oregon:														
Eugene	Mahlon Sweet Field	59.0	9	×	2.4	×	413	-----	-----	2,289	×	77	2,779	
Medford	Medford Municipal	67.0	7	×	2.8	×	413	-----	-----	2,289	×	77	2,779	
Pennsylvania:														
Allentown/Bethlehem/Easton	ABE Airport	88.0	9	×	3.1	×	413	-----	-----	2,289	×	77	2,779	
Erie	Port Erie	60.0	19	×	3.2	×	413	-----	-----	\$219	×	77	709	
Harrisburg/York	Olmsted	72.0	1	×	2.1	×	-----	×	-----	250	×	109	359	
Lancaster	Lancaster Municipal	78.0	3	-----	2.2	×	969	-----	×	2,289	-----	\$132	3,390	
Reading	General Spaatz Field	77.0	3	-----	2.0	×	413	-----	-----	2,289	×	109	2,811	
Puerto Rico: Ponce	Mercedita	51.0	11	-----	.1	×	969	-----	-----	2,289	-----	418	3,676	
South Carolina:														
Columbia	Columbia Municipal	82.0	27	×	4.2	×	-----	-----	-----	(*)	×	77	77	
Greenville and Spartanburg	Greenville/Spartanburg	51.0	14	×	.6	×	969	-----	×	2,289	×	77	3,335	
South Dakota: Sioux Falls	Joe Foss Municipal	70.0	26	×	3.3	×	413	-----	-----	\$219	×	77	709	
Tennessee:														
Bristol/Kingsport/Johnson City	Tri-Cities	63.0	22	×	8.3	×	-----	×	-----	250	×	77	327	
Chattanooga	Lovell Field	88.0	23	×	6.4	×	-----	×	-----	250	×	77	327	
Knoxville	McGhee Tyson	99.0	37	×	11.7	×	-----	×	-----	250	×	77	327	
Texas:														
Amarillo	Amarillo AFB Municipal	66.0	17	×	2.1	×	-----	×	-----	(*)	×	77	77	
Beaumont/Port Arthur	Jefferson County	67.0	14	×	2.7	×	413	-----	-----	\$2,289	×	77	2,779	
Corpus Christi	Corpus Christi International	78.0	16	×	5.0	×	-----	×	-----	250	×	77	327	
Longview/Kilgore/Gladewater	Gregg County Memorial	50.0	15	×	1.5	×	413	-----	-----	\$2,289	-----	\$363	3,065	
Lubbock	Lubbock Municipal	82.0	22	×	2.5	×	-----	×	-----	250	×	107	327	
Midland/Odessa	Midland Air Terminal	89.0	25	×	2.0	×	413	-----	-----	\$219	×	109	741	
San Angelo	Mathis Field	62.0	6	×	3.1	×	413	-----	-----	2,289	×	109	2,811	
Vermont: Burlington	Burlington	65.0	10	×	1.9	×	-----	×	-----	(*)	×	77	77	
Virgin Islands: Christiansted, St. Croix	Alexander Hamilton	63.0	29	×	1.2	×	413	-----	-----	\$2,289	-----	\$132	2,834	
Virginia:														
Newport News/Hampton	Patrick Henry	67.0	20	×	1.8	×	969	-----	×	2,289	×	77	3,335	
Roanoke	Woodrum Field	92.0	35	×	5.2	×	-----	×	-----	250	×	132	382	
Washington:														
Spokane	Geiger Field	59.0	31	×	3.1	×	969	-----	×	2,289	×	77	3,335	
Yakima	Yakima Municipal	52.0	9	×	1.5	×	413	-----	-----	2,289	×	77	2,779	
West Virginia: Charleston/Dunbar	Kanawha	76.0	25	×	5.3	×	-----	×	-----	(*)	×	109	109	
Wisconsin:														
Beloit/Janesville	Rock County	53.0	5	-----	.7	×	969	-----	-----	\$2,289	-----	\$100	3,358	
Green Bay/Clintonville	Austin Straubel	59.0	23	×	2.0	×	413	-----	-----	\$219	×	77	709	
Wyoming: Cheyenne	Cheyenne Municipal	59.0	8	×	1.4	×	413	-----	-----	2,289	×	77	2,779	
Total potential needs not funded or programed for 99,999 to 50,000 itinerant operations category							54,136			157,822			224,478	

See footnotes at end of table.





SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower	Radar		Instrument landing system			Total potential needs not funded or programmed <sup>1</sup>	
		Total Itinerant operations	Air carrier Itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Potential needs not funded or programmed <sup>1</sup>	Has	Potential needs not funded or programmed <sup>1</sup>	Has ILS	Potential needs not funded or programmed <sup>1</sup>		
								Radar					Radar service
49,999 ITINERANT OPERATIONS TO 10,000 <sup>2</sup>													
Alabama:													
Anniston	Anniston-Calhoun County Municipal	21.0	5		0.4		\$1,383		×	\$2,289		<sup>3</sup> \$132	\$3,804
Florence/Sheffield/Tuscumbia	Muscle Shoals	23.0	10	×	.4		1,383			2,289		<sup>3</sup> 132	3,804
Gadsden	Gadsden	17.0	3		.3		1,383		×	2,289		418	4,090
Tuscaloosa	Van de Graff Field	32.0	5		.8		<sup>12</sup> 969		×	2,289		<sup>3</sup> 109	3,367
Alaska:													
Annette Island	Annette Island Airfield	16.0	9	×	.7	×	969			2,289	×	109	3,367
Homer	Homer Municipal	14.0	3		.1		1,383			2,289		<sup>3</sup> 418	4,090
Juneau	Juneau Municipal	22.0	11	×	1.5	×	969			2,289		<sup>3</sup> 341	3,599
King Salmon	King Salmon	24.0	5	×	.5	×		×		250	×	109	359
Kodiak	Kodiak Municipal	10.0	5	×			1,383			2,289		<sup>3</sup> 132	3,804
Sitka	Sitka	13.0	5	×	.3		1,383			2,289	×	55	3,727
Arizona:													
Flagstaff	Flagstaff Municipal	26.0	4		.1		<sup>14</sup> 1,383			2,289		418	4,090
Grand Canyon	Grand Canyon National Park	25.0	6				<sup>12</sup> 969			2,289		418	3,676
Kingman	Kingman Municipal	12.0	3				1,383			2,289		418	4,090
Prescott	Prescott Municipal	26.0	4		.1		<sup>14</sup> 1,383			2,289		418	4,090
Winslow	Winslow Municipal	12.0	3		.1		1,383			2,289		418	4,090
Yuma	Yuma County	32.0	8			×	413			2,289		<sup>3</sup> 132	2,834
Arkansas:													
El Dorado/Camden	Goodwin	15.0	6		.3		1,383			2,289		418	4,090
Fayetteville	Drake Field	33.0	15		.2		<sup>12</sup> 969			2,289		418	3,676
Hot Springs	Hot Springs Memorial	41.0	8	×	1.1	×	413			2,289		<sup>3</sup> 109	2,811
Jonesboro	Jonesboro Municipal	13.0	3		.1		1,383			2,289		418	4,090
Pine Bluff	Grider Field	11.0	3		.4		<sup>12</sup> 969		×	2,289		418	3,676
Texarkana	Texarkana Municipal	16.0	3		.8	×	969			2,289	×	132	3,390
California:													
Blythe	Blythe Municipal	18.0	3	×			1,383			2,289		<sup>3</sup> 418	4,090
Chico	Chico Municipal	19.0	5	×	.6		<sup>12</sup> 969			2,289		<sup>3</sup> 132	3,390
El Centro	Imperial County	37.0	8				<sup>14</sup> 1,383			2,289		418	4,090
Eureka/Arcata	Eureka/Arcata	15.0	5	×	1.6		1,383			2,289	×	77	3,749
Lake Tahoe	Lake Tahoe	36.0	3		.3	×	969			2,289		418	3,676
Marysville/ Yuba City	Yuba County	34.0	3	×			<sup>12</sup> 969		×	2,289		<sup>3</sup> 418	3,676
Merced	Merced Municipal	24.0	1	×			<sup>14</sup> 1,383		×	2,289		<sup>3</sup> 418	4,090
Palmdale/Lancaster	William J. Fox	32.0	2				<sup>12</sup> 969		×	2,289		418	3,676
Red Bluff/Redding	Redding Municipal	26.0	5	×	.6		<sup>14</sup> 1,383			2,289		<sup>3</sup> 132	3,804
San Luis Obispo/Paso Robles	Paso Robles County	11.0	4		.2		1,383			2,289		418	4,090
Santa Maria	Santa Maria Public	23.0	4		.2		1,383		×	2,289		<sup>3</sup> 132	3,804
Do	Vandenberg AFB	10.0				×		×		( <sup>1</sup> )	×	55	55
Visalia	Visalia Municipal	27.0	3	×	.4		<sup>14</sup> 1,383		×	2,289		<sup>3</sup> 418	4,090
Colorado:													
Alamosa	Alamosa Municipal	11.0	4		.1		1,383			2,289		418	4,090
Aspen	Sardy Field	13.0	1			×	969			2,289		418	3,676
Durango	Durango-La Plata	11.0	5		.1		1,383			2,289		<sup>3</sup> 395	4,067
Grand Junction	Walke Field	43.0	10	×	.5	×	413			2,289	×	132	2,834
Montrose/Delta	Montrose	13.0	3				1,383			2,289		418	4,090
Steamboat Springs/Hayden	Yampa Valley	12.0	1				1,383			2,289		418	4,090
Connecticut: New Haven	New Haven Municipal	49.0	2		.1	×	969		×	2,289		<sup>3</sup> 11 55	3,313
Florida:													
Key West	Key West International	24.0	3	×	.1	×	969		×	2,289		<sup>3</sup> 418	3,676
Ocala	Ocala Municipal	19.0	1		1.1	×	1,383			2,289		<sup>3</sup> 418	4,090
Panama City	Fannin Field	46.0	7	×	.8	×	413		×	2,289	×	<sup>3</sup> 109	2,811
Valparaiso	Eglin AFB	41.0	6	×	.1	×		×		( <sup>1</sup> )	×		0
Georgia:													
Albany	Albany	39.0	7	×	.6		<sup>12</sup> 969			2,289		<sup>3</sup> 418	3,676
Athens	Athens Municipal	30.0	4		.5		<sup>14</sup> 1,383			2,289		418	4,090
Brunswick	Malcolm-McKinnon Field	13.0	2		2.1		<sup>12</sup> 969		×	2,289		<sup>3</sup> 418	3,676
Rome	Russell Field	21.0			.4		1,383			2,289		418	4,090
Valdosta	Valdosta Municipal	30.0	4		.2		<sup>12</sup> 969		×	2,289		<sup>3</sup> 132	3,390
Waycross	Waycross-Ware Co	18.0	1		.3		1,383			2,289		418	4,090
Hawaii: Hilo	General Lyman Field	36.0	23	×	7.0	×	413			2,289	×	132	2,834
Idaho:													
Burley/Rupert	Burley-Rupert	12.0	2				1,383			2,289		418	4,090
Idaho Falls	Idaho Falls Municipal	30.0	6	×	.6	×	969			2,289		<sup>3</sup> 132	3,390
Lewiston/Clarkston	Lewiston-Nez Perce County	24.0	6	×	.6		<sup>14</sup> 1,383			2,289		<sup>3</sup> 132	3,804
Pocatello	Phillips Field	33.0	7	×	.8	×	413			2,289	×	109	2,811
Twin Falls	Twin Falls Municipal	23.0	5		.1		1,383			2,289		<sup>3</sup> 132	3,804
Illinois:													
Bloomington	Bloomington Municipal	27.0	4		.2		<sup>12</sup> 969			2,289		<sup>3</sup> 132	3,390
Decatur	Decatur Municipal	34.0	5	×	.9	×	413			2,289	×	132	2,834
Galesburg	Galesburg Municipal	22.0	4		.3		1,383			2,289		<sup>3</sup> 132	3,804
Marion/Herrin	Williamson County	19.0	6		.4	×	969			2,289		<sup>3</sup> 395	3,653
Mattoon/Charleston	Coles County	15.0	3		.2		1,383			2,289		<sup>3</sup> 132	3,804
Mount Vernon	Mount Vernon Municipal	26.0	3		.2		<sup>11</sup> 1,383			2,289		<sup>3</sup> 132	3,804
Quincy/Hannibal	Baldwin-Quincy Municipal	20.0	7		.5		1,383			2,289	×	109	3,781
Sterling/Rock Falls	Whiteside County	12.0	4		.2		1,383			2,289		<sup>3</sup> 132	3,804

See footnotes at end of table.

1. The first part of the report is a general statement of the purpose and scope of the study. It is followed by a brief review of the literature on the subject. The next section is a description of the methods used in the study. This is followed by a presentation of the results of the study. The final section is a discussion of the results and their implications.

2. The second part of the report is a detailed description of the methods used in the study. This includes a description of the subjects, the materials, and the procedures. It also includes a description of the data collection and analysis methods.

3. The third part of the report is a presentation of the results of the study. This includes a description of the data and a discussion of the results. It also includes a discussion of the implications of the results.

4. The fourth part of the report is a discussion of the results and their implications. This includes a discussion of the strengths and limitations of the study and a discussion of the implications of the results for future research.

5. The fifth part of the report is a conclusion. This includes a summary of the findings of the study and a statement of the conclusions.

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*SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued*

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower	Radar		Instrument landing system			Total potential needs not funded or programmed
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Potential needs not funded or programmed <sup>1</sup>	Has Radar	Radar service	Potential needs not funded or programmed <sup>2</sup>	Has ILS	
49,999 ITINERANT OPERATIONS TO 10,000—Con.												
Indiana:												
Bloomington	Monroe County	32.0	5		0.5		<sup>12</sup> \$969			\$2,289		<sup>5</sup> \$132
Marion	Marion Municipal	19.0	3		.2		1,383		×	2,289		418
Muncie/Anderson/New Castle	Johnson Field	47.0	4		1.0	×	969			2,289		<sup>6</sup> 418
Iowa:												
Burlington	Burlington Municipal	23.0	8		.4		1,383			2,289		<sup>5</sup> 132
Clinton	Clinton Municipal	11.0	3		.2		1,383			2,289		<sup>5</sup> 132
Dubuque	Dubuque Municipal	23.0	10	×	.6		1,383			2,289		<sup>5</sup> <sup>13</sup> 109
Fort Dodge	Fort Dodge Municipal	16.0	6		.4		1,383			2,289		418
Iowa City	Iowa City Municipal	18.0	4		.2		1,383			2,289		418
Mason City	Mason City Municipal	19.0	5	×	.2		1,383			2,289		<sup>5</sup> <sup>13</sup> 109
Ottumwa	Ottumwa Municipal	26.0	6	×	.2		<sup>14</sup> 1,383			2,289		<sup>5</sup> 132
Kansas:												
Garden City	Garden City Municipal	13.0	2		.3		1,383			2,289		418
Great Bend	Great Bend Municipal	12.0	3		.3		1,383			2,289		418
Hays	Hays Municipal	16.0	5		.3		1,383			2,289		418
Hutchinson	Hutchinson Municipal	50.0	5		1.0	×	413			2,289	×	109
Liberal	Liberal Municipal	18.0	4		.3		1,383			2,289		418
Manhattan/Junction City/ Fort Riley	Manhattan/Junction City/Fort Riley Municipal	35.0	9		.5		<sup>14</sup> 1,383			2,289		418
Salina	Salina Municipal	37.0	6		1.5	×	413			2,289	×	109
Kentucky:												
Bowling Green	Bowling Green-Warren County	12.0	1		.4		1,383			2,289		418
London/Corbin	London Municipal	18.0	2		.3		1,383			2,289		<sup>6</sup> 132
Owensboro	Daviess County	32.0	4		.6	×	969			2,289		<sup>5</sup> 132
Paducah	Barkley Field	28.0	8	×	.6		<sup>15</sup> 969			2,289		<sup>5</sup> 132
Louisiana:												
Alexandria	Esler Field	23.0	10	×	.3		1,383		×	2,289	×	109
Fort Polk	Army Air Field	10.0	8		.3		1,383			2,289		418
Maine:												
Augusta/Waterville	Augusta/Waterville State	19.0	2		.3		1,383			2,289		418
Bangor	Dow Field	44.0	10	×	2.2	×	413			2,289	×	77
Lewiston/Auburn	Lewiston/Auburn Municipal	13.0	4				1,383			2,289		418
Presque Isle/Houlton	Presque Isle/Houlton AFB (Municipal)	17.0	1	×	.2		1,383		×	2,289		<sup>5</sup> 132
Maryland: Salisbury	Wicomico County	19.0	3		1.2		1,383			2,289		<sup>5</sup> <sup>13</sup> 109
Massachusetts:												
Nantucket	Nantucket Memorial	34.0	1	×	2.5	×	969		×	2,289	×	109
New Bedford/Fall River	New Bedford Municipal	44.0	2	×	1.0	×	969		×	2,289	×	109
Michigan:												
Alpena	Phelps Collins	16.0	3	×	.2	×	969			2,289		<sup>5</sup> 132
Battle Creek	W. K. Kellogg Regional	46.0	7	×	1.6	×	413			2,289	×	109
Benton Harbor/St. Joseph	Ross Field	40.0	7		1.5		<sup>12</sup> 969			2,289	×	109
Iron Mountain/Kingsford	Ford	11.0	5	×	.2		1,383			2,289		<sup>5</sup> 132
Jackson	Reynolds Field	40.0	3		1.0	×	413			2,289	×	109
Marquette	Marquette County	17.0	4	×			1,383			2,289		<sup>5</sup> 132
Sault Ste. Marie	Sault Ste. Marie Municipal	12.0	2		.1		1,383		×	2,289	×	109
Traverse City	Traverse City Municipal	19.0	7	×	.7		1,383			2,289		<sup>5</sup> 132
Minnesota:												
Brainerd	Crow Wing County	11.0	4		.1		1,383			2,289		418
Chisholm/Hibbing	Hibbing Municipal	22.0	6	×	.5		1,383		×	2,289		<sup>5</sup> 132
Fairmont	Fairmont Municipal	12.0	4				1,383			2,289		418
International Falls	International Falls	17.0	2		.3		1,383			2,289		<sup>5</sup> <sup>13</sup> 109
Mankato	Mankato Memorial	17.0	3		.1		1,383			2,289		418
Mississippi:												
Columbus	Columbus-Lowndes County	20.0	7		.1		1,383		×	2,289		<sup>5</sup> 132
Greenville	Greenville Municipal	28.0	5	×	.1		<sup>12</sup> 969			2,289		<sup>5</sup> 132
Hattiesburg	Hattiesburg Municipal	20.0	5		.4		1,383			2,289		<sup>5</sup> 132
Laurel	Laurel Municipal	21.0	4				1,383			2,289		418
Meridian	Key Field	35.0	6	×	1.0	×	969		×	2,289	×	77
Natchez	Hardy Anders	18.0	4		.4		1,383			2,289		418
Pascagoula	Jackson County	17.0	3		.2		1,383			2,289		418
Tupelo	Tupelo Municipal	15.0	3		.1		1,383			2,289		418
Missouri:												
Cape Girardeau	Cape Girardeau Municipal	36.0	2		.4		<sup>12</sup> 969			2,289		<sup>5</sup> 132
Columbia/Jefferson City	Columbia Regional Airport	26.0	20	×	.4		2,289			2,289		<sup>5</sup> <sup>13</sup> 109
Fort Leonard Wood	Forney Field	20.0	11	×	.5		1,383			2,289		<sup>6</sup> 418
Joplin	Joplin Municipal	35.0	10	×	.7		<sup>12</sup> 969			2,289	×	109
Montana:												
Bozeman	Gallatin Field	19.0	3	×	.4		1,383			2,289		<sup>5</sup> 132
Butte	Silver Bow	16.0	6		.4		1,383			2,289		418
Glasgow	Glasgow Municipal	19.0	2				1,383			2,289		418
Ilwaco	City-County	10.0	2		.1		1,383			2,289		<sup>5</sup> 100
Helena	Helena	24.0	8	×	.9	×	413			2,289		418
Kalispell	Flathead County	16.0	2		.1		1,383			2,289		418
Lewistown	Lewistown Municipal	15.0	3		.1		1,383			2,289		418
Miles City	Miles City Municipal	10.0	2		.1		1,383			2,289		<sup>5</sup> 132
Missoula	Missoula County	47.0	5	×	1.6	×	413			2,289		2,834

See footnotes at end of table.





SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower	Radar		Instrument landing system			Total potential needs not funded or programmed	
		Total itinerant operations	Air carrier itinerant operations	Turboprop service	Annual instrument approaches	Has tower	Potential needs not funded or programmed <sup>1</sup>	Has Radar	Radar service	Potential needs not funded or programmed <sup>2</sup>	Has ILS		Potential needs not funded or programmed <sup>3</sup>
49,999 ITINERANT OPERATIONS TO 10,000—Con.													
Nebraska:													
Alliance	Alliance Municipal	12.0	3				\$1,383			\$2,289		\$418	\$4,090
Chadron	Chadron Municipal	11.0	3				1,383			2,289		418	4,090
Columbus	Columbus Municipal	18.0	5		0.2		1,383			2,289		418	4,090
Grand Island	Grand Island Municipal	31.0	5		.4		<sup>12</sup> 969			2,289		<sup>5</sup> 132	3,390
Hastings	Hastings Municipal	13.0	4		.2		1,383			2,289		418	4,090
Kearney	Kearney Municipal	20.0	4		.3		1,383			2,289		418	4,090
McCook	McCook Municipal	11.0	4		.2		1,383			2,289		418	4,090
Norfolk	Karl Stefan Field	14.0	5		.2		1,383			2,289		418	4,090
North Platte	Lee Bird Field	18.0	5		.3		1,383			2,289		418	4,090
Scottsbluff	Scottsbluff	28.0	8				<sup>14</sup> 1,383			2,289		<sup>5</sup> 132	3,804
Sidney	Sidney	11.0	3		.1		1,383			2,289		418	4,090
Nevada: Elko	Elko Municipal	19.0	2				1,383			2,289		<sup>5</sup> 132	3,804
New Hampshire: Keene	Dillant Hopkins	18.0	7	×	.5		1,383			2,289	×	132	3,804
New Jersey:													
Atlantic City	Atlantic City Municipal	44.0	4	×	4.1	×		×		250	×	77	327
Cape May	Cape May County	26.0					<sup>14</sup> 1,383		×	2,289		418	4,090
New Mexico:													
Alamogordo/Holloman AFB	Alamogordo/Holloman Municipal	14.0	5			×		×		( <sup>4</sup> )		341	341
Carlsbad	Carlsbad Municipal	25.0	6		.1		<sup>14</sup> 1,383			2,289		418	4,090
Farmington	Farmington Municipal	31.0	7		.2	×	969			2,289		418	4,090
Gallup	Gallup City	12.0	3				1,383			2,289		418	4,090
Hobbs	Lea County	26.0	4		.3	×	969			2,289		418	4,090
Roswell	Walker AFB	31.0	5	×	.6	×	413			2,289	×	32	2,734
Santa Fe	County Municipal	37.0	5	×	.1	×	969			2,289		<sup>5</sup> 132	3,367
Silver City/Hurley	Silver City-Grant County	16.0	4		.1		1,383			2,289		418	4,090
New York:													
Binghamton/Endicott/Johnson City	Broome County	45.0	17	×	5.0	×		×		( <sup>4</sup> )	×	77	77
Elmira/Corning	Chemung County	49.0	19	×	2.9	×	413			<sup>4</sup> 219	×	132	764
Glens Falls	Warren County	11.0	3	×	.9		1,383		×	2,289		<sup>5</sup> 132	3,804
Ithaca/Cortland	Tompkins County	30.0	8	×	1.7		<sup>12</sup> 969			2,289		<sup>5</sup> 132	3,390
Jamestown	Jamestown Municipal	23.0	5		1.0		1,383			2,289	×	132	3,804
Ogdensburg	Municipal	14.0	2		.1		1,383			2,289		418	4,090
Plattsburgh	Plattsburgh Municipal	18.0	3	×	.3		1,383		×	2,289		<sup>5</sup> 418	4,090
Poughkeepsie	Dutchess County	38.0	1		.8		<sup>12</sup> 969		×	2,289		<sup>5</sup> 418	3,676
Utica/Rome	Oneida County	46.0	17	×	3.4	×	969		×	2,289	×	<sup>5</sup> 77	3,335
Watertown	Watertown Municipal	21.0	4	×	.5		1,383			2,289		<sup>5</sup> 132	3,804
North Carolina:													
Goldsboro	Seymour Johnson AFB	10.0	8			×		×		( <sup>4</sup> )	×	23	23
Hickory	Hickory Municipal	40.0	9		.8		<sup>12</sup> 969			2,289		<sup>5</sup> 132	3,390
Kinston	Stalling Field	17.0	10	×	.4		1,383		×	2,289		<sup>5</sup> 132	3,804
New Bern/Morehead City	Simmons Nott	23.0	11				1,383			2,289		418	4,090
Rocky Mount	Rocky Mount-Wilson	23.0	9		.9		1,383			2,289		<sup>5</sup> 132	3,804
North Dakota:													
Bismarck/Mandan	Bismarck/Mandan Municipal	48.0	11	×	1.7	×	413			2,289	×	109	2,811
Devils Lake	Devils Lake	15.0	3		.1		1,383			2,289		418	4,090
Grand Forks	Grand Forks International	36.0	14	×	.4	×	969		×	2,289		<sup>5</sup> 132	3,390
Jamestown	Jamestown Municipal	10.0	2	×	.1		1,383			2,289		<sup>5</sup> 132	3,804
Minot	Minot International	27.0	9	×	.4		<sup>14</sup> 1,383		×	2,289		<sup>5</sup> 132	3,804
Ohio:													
Lima	Allen County	23.0	3		.1		1,383			2,289		418	4,090
Portsmouth	Scioto County	15.0	1				1,383			2,289		418	4,090
Zanesville/Cambridge	Zanesville/Cambridge Municipal	13.0	2		.2		1,383			2,289		418	4,090
Oklahoma:													
Bartlesville	Frank Phillips	16.0	2		.2		1,383			2,289		418	4,090
Duncan	Halliburton	19.0	3		.1		1,383			2,289		418	4,090
Enid	Woodring	35.0	3		.3		<sup>12</sup> 969		×	2,289		418	3,676
Lawton/Fort Sill	Lawton/Fort Sill Municipal	36.0	6	×	.5	×	969		×	2,289		<sup>5</sup> 132	3,390
Ponca City	Ponca City Municipal	22.0	4		.3		1,383			2,289		418	4,090
Stillwater	Searcy	21.0	5		.1		1,383			2,289		418	4,090
Oregon:													
Albany/Corvallis	Corvallis Municipal	15.0	3	×			1,383			2,289		<sup>5</sup> 418	4,090
Astoria/Seaside	Clatsop	14.0	2		.4		1,383			2,289		418	4,090
Bend/Redmond	Roberts Field	15.0	1		.1		1,383			2,289		418	4,090
Klamath Falls	Kingsley Field	41.0	5	×		×		×		250	×	109	359
North Bend/Coos Bay	North Bend/Coos Bay Municipal	19.0	3	×	.9		1,383			2,289		<sup>5</sup> 132	4,067
Pendleton	Pendleton Municipal	25.0	2	×	.3	×	413			2,289	×	109	2,811
Salem	McNary Field	23.0	4	×	.6		<sup>12</sup> 969			2,289	×	109	3,367
Pacific Ocean:													
Guam Island	Anderson AFB	23.0	5	×	1.6	×		×		250	×		250
Wake Island	Wake	24.0	6	×	.3	×	413			2,289	×	132	2,834
Panama Canal Zone: Balboa Canal Zone/Panama City	Tocumen International	42.0	8	×	1.7	×		×		250		<sup>5</sup> 418	668
Pennsylvania:													
Bradford	McKean	18.0	7		1.5		1,383			2,289	×	109	3,781
Clearfield/Philipsburg	Mid-State	14.0	4		.7		1,383			2,289		<sup>5</sup> 132	4,067
Johnstown	Johnstown Municipal	13.0	4		.2		1,383			2,289		<sup>5</sup> 132	3,804
Oil City/Franklin	Chess Lambertson	14.0	1		.8		1,383		×	2,289		<sup>5</sup> 418	4,090
Scranton/Wilkes-Barre	Scranton/Wilkes-Barre	47.0	10	×	4.8	×		×		250	×	109	359
Williamsport	Lycoming County	48.0	7		3.5	×	413			2,289	×	109	2,811
Puerto Rico: Mayaguez	Mayaguez	37.0	4				<sup>12</sup> 969			2,289		418	3,676
Ryukyu Islands: Okinawa	Kadina	22.0	4	×		×		×		( <sup>4</sup> )	×		

See footnotes at end of table.





SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower	Radar		Instrument landing system			Total potential needs not funded or programed	
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Potential needs not funded or programed <sup>1</sup>	Has Radar	Radar service	Potential needs not funded or programed <sup>2</sup>	Has ILS		Potential needs not funded or programed <sup>3</sup>
49,999 ITINERANT OPERATIONS TO 10,000—Con.													
South Carolina:													
Anderson	Anderson Municipal	17.0	3		0.3		\$1,383		×	\$2,289		\$418	\$4,090
Florence	Florence Municipal	23.0	9		.7		1,383			2,289		<sup>13</sup> 109	3,781
Greenwood	Greenwood County	13.0	2		.2		1,383		×	2,289		418	4,090
Myrtle Beach	Crescent Beach	21.0	9		.3		1,383		×	2,289		<sup>13</sup> 132	3,804
South Dakota:													
Aberdeen	Aberdeen Municipal	19.0	8	×	.5		1,383			2,289		<sup>13</sup> 109	3,781
Brookings	Brookings Municipal	16.0	2		.1		1,383			2,289		418	4,090
Huron	W. W. Howes	16.0	7		.3		1,383			2,289	×	109	3,781
Mitchell	Mitchell Municipal	14.0	4		.2		1,383			2,289		418	4,090
Pierre	Pierre Municipal	27.0	8	×	.6		<sup>14</sup> 1,383			2,289		<sup>13</sup> 132	3,804
Rapid City	Rapid City Municipal	48.0	10	×	.6	×	969		×	2,289	×	132	3,390
Watertown	Watertown Municipal	14.0	7	×	.4		1,383			2,289		<sup>13</sup> 132	3,804
Yankton	Yankton Municipal	10.0	3		.2		1,383			2,289		418	4,090
Tennessee:													
Clarksville/Hopkinsville	Outlaw Field	21.0	3	×	.2		1,383		×	2,289		<sup>13</sup> 418	4,090
Crossville	Crossville Memorial	11.0	2		.9		1,383		×	2,289		<sup>13</sup> 132	3,804
Jackson	McKeller	17.0	6	×	.2		1,383			2,289		<sup>13</sup> 132	3,804
Texas:													
Abilene	Abilene Municipal	49.0	9	×	2.2	×	969		×	2,289	×	109	3,367
Big Spring	Howard County	23.0	4		.1		1,383		×	2,289		418	4,090
Borger	Hutchinson County	16.0	1		.1		1,383		×	2,289		418	4,090
Brownsville	Rio Grande Valley International	27.0	3	×	.6	×	413			2,289	×	109	2,811
Brownwood	Brownwood Municipal	16.0	3		.3		1,383			2,289		418	4,090
College Station/Bryan	Easterwood	34.0	6		.9	×	413			2,289		<sup>13</sup> 109	2,811
Galveston	Galveston Municipal	18.0	2	×	.6		1,383		×	2,289		<sup>13</sup> 418	4,090
Harlingen/San Benito	Harlingen Industrial Airpark	30.0	9	×	.6		<sup>12</sup> 969			2,289		<sup>13</sup> 132	3,390
Laredo	Laredo International	30.0	3	×	.5		<sup>14</sup> 1,383		×	2,289		<sup>13</sup> 109	3,781
Lufkin	Angelina County	16.0	3		.1		1,383			2,289		418	4,090
Mission/McAllen/Edinburg	Miller International	33.0	5	×	.6	×	413			2,289		<sup>13</sup> 109	2,811
Temple	Draughon-Miller	31.0	9		.6		<sup>14</sup> 1,383			2,289		<sup>13</sup> 132	3,804
Tyler	Pounds Field	45.0	18		1.4	×	413			2,289	×	109	2,811
Victoria	Foster Field	19.0	3	×	.1		1,383			2,289		<sup>13</sup> 418	4,090
Waco	Waco Municipal	49.0	11		1.3	×	413			2,289	×	77	2,779
Utah:													
Cedar City	Cedar City Municipal	10.0	4				1,383			2,289		418	4,090
Moab	Canyonland	14.0	4				1,383			2,289		418	4,090
Vermont:													
Montpelier/Barre	Montpelier/Barre	11.0	4		.2		1,383			2,289		418	4,090
Rutland	McArthur	11.0					1,383			2,289		418	4,090
White River Junction	Lebanon	14.0	4		.8		1,383			2,289		<sup>13</sup> 395	4,067
Virginia:													
Blacksburg/Radford/Pulaski	New River Valley	15.0	5		.5		1,383		×	2,289		418	4,090
Charlottesville	Albemarle	36.0	8		.3		<sup>14</sup> 1,383			2,289	×	132	3,804
Danville	Danville Municipal	15.0	3		.6		1,383		×	2,289		418	4,090
Hot Springs	Ingalls Field	12.0	4		.1		1,383			2,289	×	109	3,781
Lynchburg	Preston-Glen	43.0	13	×	1.7	×	413			2,289	×	132	2,834
Staunton	Shenandoah	20.0	7				1,383			2,289	×	109	3,781
Washington:													
Aberdeen/Hoquiam	Bowerman Field	16.0	2		.4		1,383			2,289		418	4,090
Ephrata/Moses Lake	Ephrata	34.0	3		.2	×	413			2,289	×	109	2,811
Olympia	Olympia Municipal	23.0	1		1.4		1,383		×	2,289		<sup>13</sup> 132	3,804
Pasco/Kennewick/Richland	Pasco Municipal	28.0	12	×	.8		<sup>12</sup> 969			2,289		<sup>13</sup> 132	3,390
Pullman/Moscow	Pullman/Moscow Regional	12.0	3		.4		1,383			2,289		418	4,090
Tacoma	Tacoma Industrial	22.0	2		1.0		<sup>12</sup> 969		×	2,289	×	132	3,390
Walla Walla	Walla Walla City County	27.0	7	×	.6	×	969			2,289		<sup>13</sup> 132	3,390
Wenatchee	Pangborn Field	17.0	7		.5		1,383			2,289		418	4,090
West Virginia:													
Ashland/Huntington	Tri-State	49.0	15	×	2.5	×	413			2,289	×	109	2,811
Beckley	Raleigh County	12.0	3		.5		1,383		×	2,289		<sup>13</sup> 132	3,804
Clarksburg/Fairmont	Benedum	28.0	7		.4		<sup>12</sup> 969			2,289		<sup>13</sup> 109	3,367
Elkins	Elkins Municipal	12.0	3		.1		1,383			2,289		418	4,090
Martinsburg	Martinsburg Municipal	19.0	2		.5	×	969		×	2,289		<sup>13</sup> 109	3,367
Morgantown	Morgantown	36.0	7		.4		<sup>12</sup> 969			2,289		<sup>13</sup> 132	3,390
Parkersburg/Marietta	Wood County	27.0	6		1.2	×	969			2,289	×	<sup>13</sup> 109	3,367
Princeton/Bluefield	Merced County	12.0	6		1.1		1,383		×	2,289		<sup>13</sup> 418	4,090
Wheeling	Wheeling-Ohio County	27.0	2		1.1	×	969		×	2,289	×	77	3,335
Wisconsin:													
Eau Claire	Eau Claire Municipal	16.0	5	×	.3		1,383			2,289		<sup>13</sup> 109	3,781
La Crosse	La Crosse Municipal	40.0	6	×	.4		<sup>12</sup> 969			2,289		<sup>13</sup> 109	3,367
Oshkosh/Appleton	Winnebago County	44.0	8	×	.9	×	969			2,289	×	109	3,367
Rhineland	Oneida County	10.0	4	×	.4		1,383			2,289		<sup>13</sup> 418	4,090
Wausau/Marshfield	Central Wisconsin Airport	10.0	1	×			1,383			2,289		418	4,090
Do	Municipal Airport	17.0	8		.4		1,383			2,289		<sup>13</sup> 418	4,090
Do	Stevens Point Airport	13.0	6	×	.3		1,383			2,289		418	4,090
Wyoming:													
Casper	Casper Air Terminal	48.0	11	×	.9	×	413			2,289	×	77	2,779
Jackson	Jackson Municipal	13.0	4				1,383			2,289		<sup>13</sup> 132	3,804
Riverton/Lander	Riverton Municipal	15.0	5				1,383			2,289		<sup>13</sup> 109	3,781
Rock Springs	New Municipal	12.0	3		.1		1,383		×	2,289		109	3,781
Sheridan	Sheridan County	19.0	3	×	.1		1,383			2,289		<sup>13</sup> 109	3,781
Worland	Worland Municipal	11.0	3				1,383			2,289		418	4,090
Total potential needs not funded or programed for 49,999 to 10,000 itinerant operations category							305,641			592,281			967,188

See footnotes at end of table.





SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower	Radar		Instrument landing system			Total potential needs not funded or programmed	
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Potential needs not funded or programmed 1	Has Radar	Radar service	Potential needs not funded or programmed 2	Has ILS		Potential needs not funded or programmed 3
9,999 ITINERANT OPERATIONS TO 0													
Alaska:													
Angoon	Angoon	1.0					\$1,383			\$2,289		\$418	\$4,090
Bell Island	Bell Island	.3					1,383			2,289		418	4,090
Boswell Bay	Boswell Bay	.1					1,383			2,289		418	4,090
Cape Yakataga	Cape Yakataga	.1					1,383			2,289		418	4,090
Chatham	Chatham	.4					1,383			2,289		418	4,090
Chenega	Chenega	.1					1,383			2,289		418	4,090
Chisana	Chisana	.1					1,383			2,289		418	4,090
Chitina	Chitina Municipal	2.0					1,383			2,289		418	4,090
Coffman Cove	Coffman Cove	1.0					1,383			2,289		418	4,090
Cordova	Cordova Mile 13	6.0		4	0.2		1,383			2,289		418	4,090
Craig	Craig	1.0			X		1,383			2,289		132	3,804
Deep Bay	Deep Bay	.1					1,383			2,289		418	4,090
Elfin Cove/Port	Althorp-Port Althorp	.1					1,383			2,289		418	4,090
Excursion Inlet	Excursion Inlet	1.0					1,383			2,289		418	4,090
Fairmont Island	Fairmont Island						1,383			2,289		418	4,090
False Island	False Island	1.0					1,383			2,289		418	4,090
Funter Bay	Funter Bay	.2					1,383			2,289		418	4,090
Glacier Bay	Glacier Bay	.1					1,383			2,289		418	4,090
Glacier Creek	Glacier Creek	.1					1,383			2,289		418	4,090
Gulkana	Gulkana	3.0					1,383			2,289		418	4,090
Gustavus	Gustavus	.4					1,383			2,289		418	4,090
Haines	Haines Municipal	4.0					1,383			2,289		418	4,090
Hawk Inlet	Hawk Inlet	1.0					1,383			2,289		418	4,090
Hollis	Hollis	.1					1,383			2,289		418	4,090
Hoonah	Hoonah	1.0					1,383			2,289		418	4,090
Hydaburg	Hydaburg	.3					1,383			2,289		418	4,090
Juneau Seadrome	Juneau Seadrome	.1					1,383			2,289		418	4,090
Kenny Cove	Kenny Cove	.1					1,383			2,289		418	4,090
Ketchikan	Ketchikan Waterfront	.1					1,383			2,289		418	4,090
Klawock	Klawock	1.0					1,383			2,289		418	4,090
Kotzebue	Ralph Wein Memorial	6.0			X	.1	1,383			2,289		418	4,090
Loring	Loring	.1					1,383			2,289		418	4,090
May Creek	May Creek	.1					1,383			2,289		418	4,090
McCarthy	McCarthy	.1					1,383			2,289		418	4,090
Middleton Island	Middleton Island	.1					1,383			2,289		418	4,090
Nome	Nome	8.0			X	.1	1,383			2,289		418	4,090
Northway	Northway	3.0					1,383			2,289		418	4,090
Oceanic	Oceanic	.1					1,383			2,289		418	4,090
Peak Island	Peak Island						1,383			2,289		418	4,090
Pelican City	Pelican	.1					1,383			2,289		418	4,090
Perry Island	Perry Island	.1					1,383			2,829		418	4,090
Petersburg	Petersburg	2.0					1,383			2,289		418	4,090
Port Ashton	Port Ashton	.1					1,383			2,289		418	4,090
San Juan	San Juan	1.0					1,383			2,289		418	4,090
Seward	Seward Municipal	1.0					1,383			2,289		418	4,090
Skagway	Skagway Municipal	1.0			X		1,383			2,289		418	4,090
Snettisham	Snettisham	.1					1,383			2,289		418	4,090
Soldotna	Soldotna	3.0					1,383			2,289		418	4,090
Steamboat Bay	Steamboat Bay	.1					1,383			2,289		418	4,090
Taku Harbor	Taku Harbor	.1					1,383			2,289		418	4,090
Taku Lodge	Taku Lodge	.1					1,383			2,289		418	4,090
Tatitlek	Tatitlek	.1					1,383			2,289		418	4,090
Tenakee	Tenakee	.1					1,383			2,289		418	4,090
Thorne Bay	Thorne Bay	.2					1,383			2,289		418	4,090
Unalakleet	Unalakleet	.3			X		1,383			2,289		418	4,090
Valdez	Valdez Municipal 2	3.0					1,383			2,289		418	4,090
Waterfall	Waterfall	.1					1,383			2,289		418	4,090
Wrangell	Wrangell	1.0			X		1,383			2,289		418	4,090
Yakutat	Yakutat	9.0		3	X	.2	1,383			2,289		418	4,090
Yes Bay	Yes Bay	.1					1,383			2,289		418	4,090
American Samoa: Pago Pago	Pago Pago	5.0		1	X		1,383			2,289		132	3,804
Arizona: Page	Glen Canyon	8.0		2			1,383			2,289		418	4,090
Arkansas: Harrison	Boone County	9.0		3			1,383			2,289		418	4,090
California:													
Crescent City	Del Norte County	9.0		2	X	.3	1,383			2,289		418	4,090
Inyokern	Kern County	9.0		1			1,383			2,289		418	4,090
Colorado:													
Cortez	Montezuma County	3.0		2			1,383			2,289		418	4,090
Gunnison	Gunnison Municipal	5.0		2			1,383			2,289		418	4,090
Lamar	Lamar Municipal	8.0		2			1,383			2,289		418	4,090
Connecticut: Waterbury	Waterbury-Oxford	2.0					1,383			2,289		418	4,090
Georgia: Moultrie/Thomasville	Sunset	9.0		5		.3	1,383		X	2,289		418	4,090
Idaho: Sun Valley/Hailey/Ketchum	Friedman Memorial	9.0		3			1,383			2,289		418	4,090
Illinois: Lawrenceville	Lawrenceville Municipal	8.0		1		.2	1,383			2,289		418	4,090
Indiana: Kokomo/Logansport/Peru	Kokomo Airport	2.0		1		.2	1,383		X	2,289		418	4,090
Kansas:													
Goodland	Goodland Municipal	9.0		4		.1	1,383			2,289		418	4,090
Independence/Coffeyville/Parsons	Tri-Cities	5.0		4		.1	1,383			2,289		418	4,090
Maine: Rockland	Rockland Municipal	5.0					1,383			2,289		418	4,090
Massachusetts: Martha's Vineyard	Martha's Vineyard	8.0		2		1.4	1,383		X	2,289		132	3,804

See footnotes at end of table.





SCHEDULE I.—Existing terminal facilities and equipment, and potential needs for towers, radars, and landing systems (including certain related equipment and improvements) at airports certified by the Civil Aeronautics Board to serve commercial air carriers and at selected general aviation airports—Continued

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower	Radar		Instrument landing system				
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Potential needs not funded or programed <sup>1</sup>	Has Radar	Radar service	Potential needs not funded or programed <sup>2</sup>	Has ILS	Potential needs not funded or programed <sup>3</sup>	Total potential needs not funded or programed
9,999 ITINERANT OPERATIONS TO 0—Continued													
Michigan:													
Escanaba	Escanaba Municipal	7.0	3		0.2		\$1,383			\$2,289		<sup>4</sup> \$132	\$3,804
Hancock/Houghton	Houghton County	8.0	2		.3		1,383			2,289		<sup>4</sup> 132	3,804
Ironwood/Clintonville	Gogebic County	8.0	3		.3		1,383			2,289		418	4,090
Manistee/Ludington	Blackar	7.0	3		.1		1,383			2,289		418	4,090
Marquette/Menominee	Menominee County	9.0	3		.3		1,383			2,289		418	4,090
Pellston	Emmet County	9.0	7	×	.4		1,383			2,289		<sup>4</sup> 132	3,804
Minnesota:													
Bemidji	Bemidji Municipal	8.0	4		.1		1,383			2,289		418	4,090
Thief River Falls	Thief River Falls Municipal	9.0	3		.2		1,383			2,289		418	4,090
Winona	Max Conrad	9.0	3		.1		1,383			2,289		418	4,090
Worthington	Worthington Municipal	9.0	4		.2		1,383			2,289		418	4,090
Mississippi:													
Greenwood	Leflore	7.0	2				1,383			2,289		418	4,090
University/Oxford	University/Oxford	9.0	3				1,383			2,289		418	4,090
Vicksburg	Vicksburg Municipal	9.0	2				1,383			2,289		418	4,090
Missouri:													
Kirksville	Kirksville Municipal	9.0	2		.1		1,383			2,289		418	4,090
Moberly	Moberly	7.0	2				1,383			2,289		418	4,090
Montana:													
Glendive	Glendive Municipal	5.0	2		.1		1,383			2,289		418	4,090
West Yellowstone	West Yellowstone	4.0	3	×			1,383			2,289		<sup>4</sup> 418	4,090
Wolf Point	Wolf Point Municipal	2.0	1		.1		1,383			2,289		418	4,090
Nevada: Ely	Ely Yelland Field	5.0	2				1,383			2,289		418	4,090
New Mexico: Clovis	Clovis Municipal	6.0	3		.1		1,383		×	2,289		418	4,090
New York:													
Liberty/Monticello	Sullivan County	5.0	1		.1		1,383			2,289		418	4,090
Massena	Richards Field	2.0	2		.2		1,383			2,289		418	4,090
Olean	Olean Municipal	6.0	1				1,383			2,289		418	4,090
Saranac/Lake Placid	Saranac/Lake Placid Municipal	9.0	1	×	.1		1,383			2,289		<sup>4</sup> 132	3,804
North Carolina:													
Elizabeth City	Coast Guard Air Station	9.0	3			×	969			2,289		418	3,676
Southern Pines/Pinehurst	Southern Pines/Pinehurst	9.0	2		.5		1,383			2,289		418	4,090
North Dakota:													
Williston	Sloulin	9.0	4		.1		1,383			2,289		418	4,090
Oklahoma:													
Muskogee	Davis Field	3.0	1		.2		1,383			2,289		418	4,090
Oregon:													
Baker	Baker Municipal	5.0	1				1,383			2,289		418	4,090
Ontario/Payette	Ontario Municipal	4.0	1				1,383			2,289		418	4,090
Roseburg	Roseburg Municipal	7.0			.3		1,383			2,289		418	4,090
Pennsylvania:													
Altoona	Blair County	8.0	3		.1		1,383			2,289		418	4,090
Dubois	Jefferson County	7.0	1		.1		1,383			2,289	×	109	3,781
Tennessee:													
Shelbyville/Tullahoma	Bomar Field	8.0	2				1,383			2,289		418	4,090
Texas: Paris	Cox	7.0	1		.3		1,383			2,289		418	4,090
Utah: Vernal	Vernal	4.0	2				1,383			2,289		418	4,090
Wisconsin: Manitowac/Sheboygan	Manitowac Municipal	9.0	4		.3		1,383			2,289		418	4,090
Wyoming:													
Laramie	General Brees	9.0	3				1,383			2,289		418	4,090
Lovell/Powell/Cody	Cody	8.0	2	×			1,383			2,289		<sup>4</sup> 418	4,090
Total potential needs not funded or programed for 9,999 to 0 itinerant operations category							158,631			263,235		45,759	467,625
Grand total for the 4 itinerant operations categories							547,176			1,097,782		138,595	1,783,553

<sup>1</sup> FAA's most recent typical cost estimates for the establishment of a new radar tower and for the upgrading of existing or planned towers to radar towers during fiscal year 1973. Typical cost estimates are as follows:  
New radar-approach control tower..... \$1,383,000  
Upgrading existing or planned towers:  
  Nonapproach control tower to radar tower..... 969,000  
  Nonradar-approach control tower to radar tower..... 413,000

<sup>2</sup> FAA's most recent typical cost estimates for the installation of a surveillance radar at a radar tower and related improvements during fiscal year 1973. Typical cost estimates are as follows:  
Basic equipment: Radar..... \$2,039,000  
Improvements:  
  Automation equipment (ARTS II)..... 250,000  
  Upgrading radar equipment scheduled for installation in airport tower cabs to a full complement of radar equipment..... 219,000  
Equipment combinations:  
  Radar and automation equipment (ARTS II)..... 2,289,000  
  Upgrading radar equipment scheduled for installation in airport tower cabs to a full complement of radar equipment and automation equipment (ARTS II)..... 469,000

<sup>3</sup> FAA's most recent typical cost estimates for the installation of an instrument landing system (including approach lights), and related improvements during fiscal year 1973. Typical cost estimates are as follows:  
Basic equipment: Instrument landing system (including approach lights)..... \$286,000  
Improvements:  
  Distance measuring equipment..... 77,000  
  Runway visual range equipment..... 32,000  
  Compass locator..... 23,000  
Equipment combinations:  
  Instrument landing system (including approach lights), distance measuring equipment, runway visual range equipment, and compass locator..... 418,000  
  Instrument landing system (including approach lights), distance measuring equipment, and runway visual range equipment..... 395,000  
  Instrument landing system (including approach lights), distance measuring equipment, and compass locator..... 366,000  
  Instrument landing system (including approach lights) and distance measuring equipment..... 363,000  
  Instrument landing system (including approach lights), runway visual range equipment, and compass locator..... 341,000  
  Distance measuring equipment, runway visual range equipment, and compass locator..... 132,000  
  Distance measuring equipment and runway visual range equipment..... 109,000  
  Runway visual range equipment and compass locator..... 65,000

<sup>4</sup> Planned automation equipment. Planned facilities and equipment installations are funded and programmed or included in FAA's fiscal year 1972 budget.  
<sup>5</sup> Planned instrument landing system. Planned facilities and equipment installations are funded and programmed or included in FAA's fiscal year 1972 budget.  
<sup>6</sup> Planned radar. Planned facilities and equipment installations are funded and programmed or included in FAA's fiscal year 1972 budget.  
<sup>7</sup> General aviation airports. These airports generally serve private aircraft and small commercial aircraft, but do not serve commercial air carriers certified by the Civil Aeronautics Board. The 12 general aviation airports with substantial traffic activity are included in the "100,000 and over" itinerant operations category.  
<sup>8</sup> Qualified for instrument landing system (including approach lights). Qualified under FAA's criteria but is neither funded nor included in FAA's fiscal year 1972 budget.  
<sup>9</sup> Qualified for radar. Qualified under FAA's criteria but is neither funded nor included in FAA's fiscal year 1972 budget.  
<sup>10</sup> Planned runway visual range equipment. Planned facilities and equipment installations are funded and programmed or included in FAA's fiscal year 1972 budget.  
<sup>11</sup> Planned distance measuring equipment. Planned facilities and equipment installations are funded and programmed or included in FAA's fiscal year 1972 budget.  
<sup>12</sup> Planned compass locator. Planned facilities and equipment installations are funded and programmed or included in FAA's fiscal year 1972 budget.  
<sup>13</sup> Qualified for nonapproach control tower. Qualified under FAA's criteria but is neither funded nor included in FAA's fiscal year 1972 budget.





## SCHEDULE II.—Estimated costs for towers, radars, and landing systems that could be installed at airports under FAA criteria but which have not been funded or included in FAA's 1972 budget

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Estimated cost of facilities and equipment not funded or programmed			Total
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Tower <sup>1</sup>	Radar <sup>2</sup>	Instrument landing system <sup>3</sup>	
Alaska:									
Homer	Homer Municipal	14.0	3	×	0.1			\$286	\$286
Juneau	Juneau Municipal	22.0	11	×	1.5	(9)		286	286
Kenai	Kenai Municipal	52.0	3	×	.2	(9)		286	286
Kotzebue	Kotzebue	6.0		×	.1			286	286
Nome	Nome	8.0		×	.1			286	286
Skagway	Skagway Municipal	1.0		×				286	286
Unalakleet	Unalakleet	.3		×	.1			286	286
Wrangell	Wrangell	1.0		×				286	286
Yakutat	Yakutat	9.0	3	×	.2			286	286
Arizona:									
Flagstaff	Flagstaff Municipal	26.0	4		.1	\$414			414
Prescott	Prescott Municipal	26.0	4		.1	414			414
California:									
Blythe	Blythe Municipal	18.0	3					286	286
Crescent City	Del Norte County	9.0	2	×	.3			286	286
El Centro	Imperial County	37.0	8			414			414
Fullerton	Fullerton Municipal <sup>5</sup>	143.0	2		3.9	(9)		286	286
Indio/Palm Springs	Palm Springs	70.0	13	×	.1	(9)		286	286
Marysville/Yuba City	Yuba County	34.0	3			(9)		286	286
Merced	Merced Municipal	24.0	1	×		414		286	700
Oxnard/Ventura	Oxnard-Ventura County	78.0	4		2.0	(9)		286	286
Red Bluff/Redding	Redding Municipal	26.0	5	×	.6	414		(7)	414
Riverside/Ontario	Riverside	74.0	4	×	1.4	(9)		286	286
Santa Monica	Santa Monica Municipal <sup>6</sup>	166.0	1		3.9	(9)		286	286
Torrance	Torrance Municipal <sup>5</sup>	162.0			.9	(9)		286	286
Van Nuys	Van Nuys <sup>5</sup>	320.0	1		4.0	(9)		286	286
Visalia	Visalia Municipal	27.0	3	×	.4	414		286	700
Florida:									
Daytona Beach	Daytona Beach Municipal	121.0	13	×	1.2	(9)	\$1,980	(7)	1,980
Key West	Key West International	24.0	3	×	.2	(9)		286	286
Ocala	Ocala Municipal	19.0	1		1.1			286	286
Tallahassee	Tallahassee Municipal	75.0	11	×	3.5	(9)	1,980	(7)	1,980
Georgia:									
Albany	Albany	39.0	7	×	.6	(9)		286	286
Athens	Athens Municipal	30.0	4		.5	414			414
Brunswick	Malcolm-McKinnon Field	13.0	2		2.1	(9)		286	286
Savannah	Travis Field	91.0	12	×	3.8	(9)	1,980	(7)	1,980
Idaho: Lewiston/Clarkston	Lewiston-Nez Perce County	24.0	6	×	.6	414		(7)	414
Illinois:									
Champaign/Urbana	University of Illinois	79.0	11	×	2.0	(9)	1,980	(7)	1,980
Mount Vernon	Mount Vernon Municipal	26.0	3		.2	414		(7)	414
Indiana:									
Evansville	Dress Memorial	68.0	15	×	2.2	(9)	1,980	(7)	1,980
Muncie/Anderson/New Castle	Johnson Field	47.0	4		1.0	(9)		286	286
Iowa:									
Ottumwa	Ottumwa Municipal	26.0	6	×	.2	414		(7)	414
Waterloo	Waterloo Municipal	53.0	14	×	1.7	(9)	1,980	(7)	1,980
Kansas:									
Manhattan/Junction City/Fort Riley	Manhattan/Junction City/Fort Riley Municipal	35.0	9		.5	414			414
Topoka	Philip Ballard	72.0	12		1.4	(9)	1,980	(7)	1,980
Louisiana:									
Lafayette/Urbana	Lafayette Municipal	102.0	12		1.6	(9)	1,980	(7)	1,980
Lake Charles	Lake Charles Municipal	59.0	11	×	2.0	(9)	1,980	(7)	1,980
Maine: Portland	Portland Municipal	63.0	16	×	2.5	(9)	1,980	(7)	1,980
Missouri:									
Fort Leonard Wood	Forney Army Airfield	20.0	11	×	.5			286	286
Springfield	Springfield Municipal	60.0	13	×	1.6	(9)	1,980	(7)	1,980
Montana: West Yellowstone	West Yellowstone	4.0	3	×				286	286
Nebraska: Scottsbluff	Scottsbluff	28.0	8			414		(7)	414
New Jersey: Cape May	Cape May County	26.0				414			414

See footnotes at end of table.

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## SCHEDULE II.—Estimated costs for towers, radars, and landing systems that could be installed at airports under FAA criteria but which have not been funded or included in FAA's 1972 budget—Continued

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Estimated cost of facilities and equipment not funded or programmed			Total
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Tower <sup>1</sup>	Radar <sup>2</sup>	Instrument landing system <sup>3</sup>	
New Mexico: Carlsbad	Carlsbad Municipal	25.0	6		0.1	\$114			\$114
New York:									
Plattsburgh	Plattsburgh Municipal	18.0	3	×	.3			\$286	286
Poughkeepsie	Dutchess County	38.0	1		.8	( <sup>4</sup> )		286	286
North Carolina: Wilmington	New Hanover County	57.0	14	×	1.8	( <sup>4</sup> )	\$1,980	( <sup>7</sup> )	1,980
North Dakota: Minot	Minot International	27.0	9	×	.4	414		( <sup>7</sup> )	414
Oregon:									
Albany/Corvallis	Corvallis Municipal	15.0	3	×				286	286
North Bend/Coos Bay	North Bend Municipal	19.0	3	×	.9			286	286
Panama, C.Z.: Panama City/Balboa	Toeumen International	42.0	8	×	1.7	( <sup>4</sup> )	( <sup>8</sup> )	286	286
Pennsylvania:									
Clearfield/Philipsburg	Mid-State	14.0	4		.7			286	286
Oil City/Franklin	Chess-Lamberton	14.0	1		.8			286	286
South Dakota: Pierre	Pierre Municipal	27.0	8	×	.6	414		( <sup>7</sup> )	414
Tennessee: Clarksville/Hopkinsville, Ky	Outlaw Field	21.0	3	×	.2			286	286
Texas:									
Beaumont/Port Arthur	Jefferson County	67.0	14	×	2.7	( <sup>4</sup> )	1,980	( <sup>7</sup> )	1,980
Galveston	Galveston Municipal	18.0	2	×	.6			286	286
Laredo	Laredo International	30.0	3	×	.5	414		( <sup>7</sup> )	414
Longview/Kilgore/Gladewater	Gregg County Memorial	50.0	15	×	1.5	( <sup>4</sup> )	1,980	286	2,266
Temple	Draughon-Miller	31.0	9		.6	414		( <sup>7</sup> )	414
Victoria	Foster Field	19.0	3	×	.1			286	286
Vermont: White River Jet	Lebanon	14.0	4		.8			286	286
Virginia: Charlottesville	Albemarle	36.0	8		.3	414		( <sup>7</sup> )	414
West Virginia: Princeton/Bluefield	Mercer County	12.0	6		1.1			286	286
Wisconsin:									
Rhineland	Oneida County	10.0	4	×	.4			286	286
Wausau/Marshfield	Central Wisconsin Airport	10.0	1	×				286	286
Do	Stevens Point Airport	13.0	6	×	.3			286	286
Wyoming: Lovell/Powell/Cody	Cody	8.0	2	×				286	286
Virgin Islands:									
Christiansted/St. Croix	Alexander Hamilton	63.0	29	×	1.2	( <sup>4</sup> )	1,980	( <sup>7</sup> )	1,980
St. Thomas, Charlotte Amalie	Harry S. Truman	103.0	16	×	1.0	( <sup>4</sup> )	1,980	( <sup>7</sup> )	1,980
Total needs not funded or programmed but qualify under FAA criteria						7,866	31,680	12,870	52,416

<sup>1</sup> FAA's most recent typical estimate for the establishment of a new nonapproach control tower during fiscal year 1973 is \$414,000.<sup>2</sup> FAA's most recent typical estimate for installation during fiscal year 1973 of a new surveillance radar and related radar bright indicator equipment for tower cabs is \$1,980,000.<sup>3</sup> FAA's most recent typical estimate for installation of an instrument landing system (including approach lights) during fiscal year 1973 is \$286,000.<sup>4</sup> Has existing or planned nonapproach control tower.<sup>5</sup> General aviation airport. These airports generally serve private aircraft and small commercial aircraft, but do not serve commercial air carriers certificated by the Civil Aeronautics Board.<sup>6</sup> Has existing approach control tower.<sup>7</sup> Has existing or planned instrument landing system.<sup>8</sup> Has existing surveillance radar.



1. Name of the person to whom the property is transferred  
2. Address of the person to whom the property is transferred  
3. Description of the property transferred  
4. Date of the transfer  
5. Signature of the person transferring the property  
6. Signature of the person to whom the property is transferred  
7. Notary Public  
8. State of \_\_\_\_\_  
9. County of \_\_\_\_\_  
10. City of \_\_\_\_\_

11. I, the undersigned, do hereby certify that the foregoing is a true and correct copy of the original instrument as the same appears from the records of the office of the Notary Public for the County of \_\_\_\_\_, State of \_\_\_\_\_.

12. In testimony whereof, I have hereunto set my hand and the seal of my office, at \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

13. \_\_\_\_\_  
Notary Public  
My Commission Expires \_\_\_\_\_

14. \_\_\_\_\_  
Witness my hand and the seal of my office, at \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

15. \_\_\_\_\_  
Notary Public  
My Commission Expires \_\_\_\_\_

16. \_\_\_\_\_  
Witness my hand and the seal of my office, at \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

17. \_\_\_\_\_  
Notary Public  
My Commission Expires \_\_\_\_\_

18. \_\_\_\_\_  
Witness my hand and the seal of my office, at \_\_\_\_\_, this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_.

19. \_\_\_\_\_  
Notary Public  
My Commission Expires \_\_\_\_\_

## SCHEDULE III.—Estimated costs for towers, radars, and landing systems that have been funded for installation at airports by FAA but which have not been installed and made operational

(All figures in thousands)

State and community	Airports	Fiscal year 1970 traffic data				Tower		Radar		Instrument landing system			Total
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Funded (non-approach control tower)	Has		Funded	Has ILS	Funded	
								Radar	Radar service				
Alabama:													
Anniston	Anniston-Calhoun County Municipal	21	5		0.4				X			<sup>1</sup> \$138	\$138
Dothan	Napier Field	83	9	X	3.6	X						<sup>1</sup> 138	138
Florence/Sheffield/Tuscumbia	Muscle Shoals	23	10	X	.4							<sup>1</sup> 150	150
Huntsville	Huntsville-Madison County	79	20	X	3.4	X							81
Mobile	Bates Field	75	17	X	3.2	X					X		920
Tuscaloosa	Van de Graff Field	32	5		.8		\$200		X			<sup>1</sup> 220	420
Alaska:													
Cordova	Cordova Mile 13	6	4	X	.2							<sup>1</sup> 127	127
Kenai	Kenai Municipal	52	3	X	.2		200						200
Kodiak	Kodiak Municipal	10	5	X								<sup>1</sup> 223	223
American Samoa: Pago Pago	Pago Pago	5	1	X								<sup>1</sup> 251	251
Arizona:													
Grand Canyon	Grand Canyon National Park	25	6				200						200
Phoenix	Phoenix Sky Harbor Municipal	277	87	X	.8	X		X			<sup>1</sup> 938	<sup>1</sup> 212	1,150
Tucson	Tucson International	113	37	X	.1	X			X			<sup>1</sup> 132	132
Yuma	Yuma County	32	8			X						<sup>1</sup> 232	232
Arkansas:													
Fayetteville	Drake Field	33	15		.2		200						200
Fort Smith	Fort Smith Municipal	60	15	X	1.7	X						<sup>2</sup> <sup>1</sup> 1,050	1,050
Hot Springs	Hot Springs Memorial	41	8	X	1.1	X						<sup>1</sup> 182	182
Little Rock	Adams Field	122	29	X	3.6	X		X					13
Pine Bluff	Grider Field	11	3		.4		200		X		<sup>1</sup> 135	X	232
California:													
Chico	Chico Municipal	19	5	X	.6		200					<sup>1</sup> 232	432
Fresno	Fresno Air Terminal	124	17	X	3.0	X					<sup>2</sup> <sup>1</sup> 1,050	X	1,050
Los Angeles	Los Angeles International	566	438	X	73.0	X		X			<sup>1</sup> 1,211	X	1,211
Marysville/Yuba City	Yuba County	34	3	X			200			X			200
Modesto	City-County	72	3	X	.3	X						<sup>1</sup> 157	157
Palmdale/Lancaster	William J. Fox	32	2				200			X			200
Red Bluff/Redding	Redding Municipal	26	5	X	.6							<sup>1</sup> 187	187
Salinas/Monterey	Peninsula	94	13	X	.9	X					<sup>2</sup> <sup>1</sup> 322	X	322
Oakland	Metropolitan Oakland International	238	73	X	8.9	X		X			<sup>1</sup> 1,552	X	1,552
Santa Maria	Santa Maria Public	23	4		.2				X			<sup>1</sup> 198	198
Do	Vandenberg AFB	10				X		X			<sup>1</sup> 215	X	215
Santa Rosa	Sonoma County	67	3	X	1.6	X		X				<sup>1</sup> 232	232
Colorado:													
Denver	Stapleton Field	315	172	X	10.7	X		X			<sup>1</sup> 1,250	X	1,250
Durango	Durango-La Plata	11	5		.1							<sup>1</sup> 19	19
Connecticut:													
Bridgeport	Bridgeport Municipal	92	7		2.6	X			X			<sup>1</sup> 269	269
New London	New London Trumbull	58	7		1.0		200			X		<sup>1</sup> 277	477
New Haven	New Haven Municipal	49	2		.1	X			X			<sup>1</sup> 203	203
District of Columbia:													
Washington	Dulles International	145	64	X	8.6	X		X			<sup>1</sup> 942	X	942
Do	National	329	220	X	16.4	X		X			<sup>1</sup> 1,747	X	1,747
Florida:													
Fort Lauderdale	Fort Lauderdale/Hollywood International	301	46	X	3.3	X					<sup>2</sup> 1,080	X	1,080
Fort Myers	Page Field	74	4	X	.5	X						<sup>1</sup> 209	209
Gainesville	Gainesville Municipal	57	1		2.7		200					<sup>1</sup> 232	432
Orlando	McCoy AFB	139	85	X	2.2	X		X			<sup>1</sup> 215	X	215
Melbourne	JFK Memorial	85	10	X	.6	X			X			<sup>1</sup> 209	209
Miami	Miami International	354	261	X	10.1	X		X			<sup>1</sup> 1,616	X	1,616
Panama City	Fannin Field	46	7	X	.8	X			X			<sup>1</sup> 19	19
Sarasota/Bradenton	Sarasota/Bradenton	81	8	X	.8	X			X			<sup>1</sup> 224	224
Valparaiso	Eglin AFB	41	6	X	.1	X		X			<sup>1</sup> 215	X	215
Vero Beach	Vero Beach Municipal	64	1		.1		200						200
West Palm Beach/Palm Beach	West Palm Beach International	171	44	X	2.1	X		X			<sup>1</sup> 135	X	135
Georgia:													
Albany	Albany	39	7	X	.6		200		X				200
Augusta	Bush Field	60	23	X	3.5	X					<sup>2</sup> <sup>1</sup> 1,181	X	1,181
Brunswick	Malcolm-McKinnon Field	13	2		2.1		200		X				200
Columbus	Muskogee County	78	19	X	5.2	X		X			<sup>1</sup> 135	X	135
Valdosta	Valdosta Municipal	30	4				200		X			<sup>1</sup> 232	432
Hawaii: Honolulu	Honolulu International	271	129	X	9.4	X		X			<sup>1</sup> 992	X	992
Idaho:													
Boise	Boise Air Terminal	88	21	X	.9	X					<sup>2</sup> <sup>1</sup> 1,050	X	1,050
Idaho Falls	Idaho Falls Municipal	30	6	X	.6	X						<sup>1</sup> 229	229
Lewiston/Clarkston	Lewiston-Nez Perce County	24	6	X	.6							<sup>1</sup> 232	232
Twin Falls	Twin Falls Municipal	23	5		.1							<sup>1</sup> 232	232
Illinois:													
Bloomington	Bloomington Municipal	27	4		.2		200					<sup>1</sup> 232	432
Chicago	O'Hare International	670	634	X	56.1	X		X			<sup>1</sup> 1,751	X	1,751
Galesburg	Galesburg Municipal	22	4		.3	X						<sup>1</sup> 282	282
Marion/Herrin	Williamson County	19	6			X						<sup>1</sup> 19	19
Mattoon/Charleston	Coles County	15	3		.2							<sup>1</sup> 282	282
Moline/Davenport	Quad City	82	24	X	2.5	X					<sup>2</sup> <sup>1</sup> 1,050	X	1,050
Mount Vernon	Mount Vernon Municipal	26	3		.2							<sup>1</sup> 282	282
Peoria	Peoria Municipal	87	23	X	2.7	X					<sup>2</sup> <sup>1</sup> 1,050	X	1,050
Springfield	Capital	97	18	X	2.1	X					<sup>2</sup> <sup>1</sup> 1,050	X	1,050
Sterling/Rock Falls	Whiteside County	12	4		.2							<sup>1</sup> 282	282
Indiana:													
Bloomington	Monroe County	32	.5		.5		200					<sup>1</sup> 232	423
Indianapolis	Wier Cook	183	91	X	15.0	X		X			<sup>1</sup> 1,095	X	1,095
South Bend	St. Joseph County	82	22	X	4.4	X					<sup>2</sup> <sup>1</sup> 1,064	X	1,064
Lafayette	Purdue Airport	51	9		1.6		200					X	200

See footnotes at end of table.





## SCHEDULE III.—Estimated costs for towers, radars, and landing systems that have been funded for installation at airports by FAA but which have not been installed and made operational—Continued

(All figures in thousands)

State and community	Airports	Fiscal year 1970 traffic data				Tower		Radar		Instrument landing system			
		Total Itinerant operations	Air carrier Itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Funded (non-approach control tower)	Has		Funded	Has ILS	Funded	Total
								Radar	Radar service				
Iowa:													
Burlington	Burlington Municipal	23	8		0.4							<sup>1</sup> \$209	\$209
Cedar Rapids	Cedar Rapids Municipal	57	19	×	2.2	×				<sup>2</sup> \$1,050	×		1,050
Clinton	Clinton Municipal	11	3		2							<sup>1</sup> 282	282
Dubuque	Dubuque Municipal	23	10	×	.6							<sup>1</sup> 226	226
Mason City	Mason City Municipal	9	5	×	.2							<sup>1</sup> 241	241
Ottumwa	Ottumwa Municipal	26	6	×	.2							<sup>1</sup> 282	282
Sioux City	Sioux City Municipal	73	12	×	2.3	×				<sup>2</sup> \$1,050	×		1,050
Kentucky:													
Lexington/Frankfort	Alleghany	91	19	×	4.1	×				<sup>2</sup> \$1,369	×		1,369
London/Corbin	London Municipal	18	2		.3							<sup>1</sup> 214	214
Owensboro	Daviess County	32	4		.6	×			×			<sup>1</sup> 203	203
Paducah	Barkley Field	28	8	×	.6		\$200					<sup>1</sup> 209	409
Louisiana:													
Baton Rouge	Ryan	74	19	×	3.3	×				<sup>2</sup> \$1,050	×		1,050
New Orleans	Moisant International	155	117	×	13.5	×		×		<sup>4</sup> 867	×		867
Maine: Presque Isle/Houlton	Presque Isle/Houlton AFB (Municipal)	17	1	×	.2				×			<sup>1</sup> 204	204
Maryland: Salisbury	Wicomico County	19	3		1.2							<sup>1</sup> 173	173
Massachusetts:													
Boston	General Edward Lawrence Logan International	309	217	×	25.2	×		×		<sup>4</sup> 1,142	×		1,142
Martha's Vineyard	Martha's Vineyard	8	2		1.4				×			<sup>1</sup> 157	157
Michigan:													
Alpena	Phelps Collins	16	3	×	.2	×						<sup>1</sup> 282	282
Benton Harbor/St. Joseph	Ross Field	40	7		1.5		200		×		×		200
Detroit	Detroit Metropolitan Wayne	306	220	×	18.4	×		×		<sup>4</sup> 1,128	×		1,128
Flint	Bishop	91	17	×	2.4	×				<sup>2</sup> \$1,050	×		1,050
Grand Rapids	Cascade	93	27	×	3.9	×				<sup>2</sup> \$1,181	×		1,181
Hancock/Houghton	Houghton County	8	2		.3							<sup>1</sup> 282	282
Iron Mountain/Kingsford	Ford	11	5		.2							<sup>1</sup> 232	232
Lansing	Capital City	99	20	×	3.0	×				<sup>2</sup> \$1,050	×		1,050
Escanaba	Escanaba Municipal	7	3		.2							<sup>1</sup> 282	282
Marquette	Marquette County	17	4	×								<sup>1</sup> 84	84
Pellston	Emmet County	9	7	×	.4							<sup>1</sup> 205	205
Saginaw/Bay City/Midland	Tri-City	60	17	×	2.5	×				<sup>2</sup> \$1,050	×		1,050
Traverse City	Traverse City Municipal	19	7	×	.7							<sup>1</sup> 187	187
Minnesota:													
Chisholm/Hibbing	Hibbing Municipal	22	6	×	.5				×			<sup>1</sup> 181	181
International Falls	International Falls	17	2		.3							<sup>1</sup> 100	100
Minneapolis/St. Paul	Minneapolis/St. Paul International	237	146	×	14.3	×		×		<sup>4</sup> 926	×		926
Rochester	Rochester Municipal	59	20	×	3.1	×				<sup>2</sup> \$1,050	×		1,050
Mississippi:													
Columbus	Columbus-Lowndes County	20	7		.1				×			<sup>1</sup> 66	66
Greenville	Greenville Municipal	28	5	×	.1		200					<sup>1</sup> 203	403
Gulfport/Biloxi	Gulfport/Biloxi Municipal	72	9	×	1.3	×						<sup>1</sup> 179	179
Hattiesburg	Hattiesburg Municipal	20	5		.4							<sup>1</sup> 282	282
Missouri:													
Cape Girardeau	Cape Girardeau Municipal	36	2		.4		200					<sup>1</sup> 232	432
Columbia/Jefferson City	Columbia Regional Airport	26	20	×	.4		200					<sup>1</sup> 226	426
Joplin	Joplin Municipal	35	10	×	.7		200						200
Kansas City	Kansas City Municipal	228	136	×	11.8	×		×		<sup>4</sup> 892	×		892
St. Louis	Lambert Field	320	192	×	16.0			×		<sup>4</sup> 934	×		934
Montana:													
Billings	Billings Municipal	74	27	×	1.7	×				<sup>2</sup> \$1,050	×		1,050
Bozeman	Gallatin Field	19	3	×	.4							<sup>1</sup> 232	232
Helena	Helena	24	8	×	.9	×						<sup>1</sup> 203	203
Missoula	Missoula County	47	5	×	1.6	×						<sup>1</sup> 181	181
Nebraska:													
Grand Island	Grand Island Municipal	31	5		.5		200					<sup>1</sup> 157	357
Lincoln	Lincoln Municipal	97	14	×	1.5	×				<sup>2</sup> \$1,050	×		1,050
Scottsbluff	Scottsbluff	28	8									<sup>1</sup> 209	209
Nevada:													
Elko	Elko Municipal	19	2									<sup>1</sup> 282	282
Las Vegas	McCarran Field	185	92	×	.5	×		×		<sup>4</sup> 880	×		880
New Mexico:													
Alamogordo/Holloman AFB	Alamogordo/Holloman Municipal	14	5			×		×		<sup>4</sup> 215			215
Santa Fe	County Municipal	37	5	×	.1	×						<sup>1</sup> 270	270
New York:													
Albany	Albany County	111	50	×	10.4	×		×			×	<sup>4</sup> 9	9
Binghamton/Endicott/Johnson City	Broome County	45	17	×	5.0	×		×		<sup>4</sup> 102	×		102
Elmira/Corning	Chemung County	49	19	×	2.9	×				<sup>2</sup> \$1,050	×		1,050
Glens Falls	Warren County	11	3	×	.9				×			<sup>1</sup> 232	232
Islip/Long Island	McArthur	123	9	×	2.2	×						<sup>4</sup> 8	8
Ithaca/Cortland	Tompkins County	30	8	×	1.7		200					<sup>1</sup> 172	372
New York City	La Guardia	333	265	×	25.9	×						<sup>4</sup> 14	14
Poughkeepsie	Dutchess County	38	1		.8		200		×			<sup>1</sup> 282	200
Saranac/Lake Placid	Saranac/Lake Placid Municipal	9	1	×								<sup>1</sup> 282	282
Utica/Rome	Oneida County	46	17	×	3.4	×			×		×	<sup>4</sup> 7	7
Watertown	Watertown Municipal	21	4	×	.5							<sup>1</sup> 232	232
North Carolina:													
Asheville	Asheville	52	16	×	3.5	×				<sup>2</sup> \$1,050	×		1,050
Fayetteville	Grannis Field	65	16	×	1.7	×				<sup>2</sup> \$1,050	×		1,050
Goldboro	Seymour Johnson AFB	10	8			×		×		<sup>4</sup> 215	×		215
Hickory	Hickory Municipal	40	9		.8		200					<sup>1</sup> 181	381
Kinston	Stalling Field	17	10	×	.4				×			<sup>1</sup> 209	209
Raleigh/Durham	Raleigh/Durham	109	32	×	8.5	×				<sup>2</sup> \$1,050	×		1,050
Rocky Mount	Rocky Mount/Wilson	23	9		.9							<sup>1</sup> 163	163

See footnotes at end of table.



**SCHEDULE III.—Estimated costs for towers, radars, and landing systems that have been funded for installation at airports by FAA but which have not been installed and made operational—Continued**

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower		Radar			Instrument landing system		
		Total itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Funded (non-approach control tower)	Has		Funded	Has ILS	Funded	Total
								Radar	Radar service				
North Dakota:													
Fargo/Moorhead	Hector Municipal	58	13	×	1.7	×				<sup>2</sup> \$1,050	×		\$1,050
Grand Forks	Grand Forks International	36	14	×	.4				×			<sup>1</sup> \$197	197
Jamestown	Jamestown Municipal	10	2	×	.1							<sup>1</sup> 282	282
Minot	Minot International	27	9	×	.4				×			<sup>1</sup> 209	209
Ohio:													
Cincinnati	Greater Cincinnati	135	93	×	11.2	×		×		<sup>4</sup> 915	×		915
Cleveland	Cleveland-Hopkins International	241	145	×	20.9	×		×		<sup>4</sup> 929	×		929
Columbus	Port Columbus	232	64	×	15.4	×		×		<sup>4</sup> 952	×		952
Youngstown	Youngstown Municipal	68	15	×	6.1	×		×		<sup>4</sup> 135	×		135
Oklahoma: Lawton/Fort Sill	Lawton/Fort Sill Municipal	36	6	×	.5	×			×			<sup>1</sup> 209	209
Oregon:													
North Bend/Coos Bay	North Bend/Coos Bay Municipal	19	3	×	.9							<sup>4</sup> 19	19
Salem	McNary Field	23	4	×	.6		\$200						200
Pennsylvania:													
Clearfield/Philipsburg	Mid-State	14	4		.7							<sup>3</sup> 19	19
Erie	Port Erie	60	19	×	3.2	×							1,181
Johnstown	Johnstown Municipal	13	4		.2					<sup>2</sup> <sup>4</sup> 1,181	×		1,181
Lancaster	Lancaster Municipal	78	3		2.2	×			×			<sup>1</sup> 232	232
Philadelphia	Philadelphia International	275	191	×	24.9	×		×		<sup>4</sup> 996	×	<sup>1</sup> 132	132
Pittsburgh	Greater Pittsburgh	260	187	×	30.7	×		×		<sup>4</sup> 929	×		996
Puerto Rico:													
Mayaguez	Mayaguez	37	4				200						200
San Juan	Puerto Rico International	205	141	×	1.0	×		×		<sup>4</sup> 775	×		775
Ryukyu Islands: Okinawa	Kadina	22	4	×		×		×		<sup>4</sup> 215	×		215
South Carolina:													
Columbia	Columbia Municipal	82	27	×	4.2	×				<sup>2</sup> <sup>4</sup> 1,155	×		1,155
Florence	Florence Municipal	23	9		.7							<sup>1</sup> <sup>3</sup> 243	243
Myrtle Beach	Crescent Beach	21	9		.3				×			<sup>1</sup> 232	232
South Dakota:													
Aberdeen	Aberdeen Municipal	19	8	×	.5							<sup>1</sup> <sup>3</sup> 219	219
Pierre	Pierre Municipal	27	8	×	.6							<sup>1</sup> 203	203
Sioux Falls	Joe Foss Municipal	70	26	×	3.3	×				<sup>2</sup> <sup>4</sup> 1,181	×		1,181
Watertown	Watertown Municipal	14	7	×	.4							<sup>1</sup> 232	232
Tennessee:													
Crossville	Crossville Memorial	11	2		.9				×			<sup>1</sup> 282	282
Jackson	McKeller	17	6	×	.2							<sup>1</sup> 282	282
Memphis	Memphis Metropolitan	272	115	×	10.6	×		×		<sup>4</sup> 915	×		915
Texas:													
Amarillo	Amarillo AFB Municipal	66	17	×	2.1	×		×		<sup>4</sup> 135	×		135
College Station/Bryan	Easterwood	34	6		.9							<sup>1</sup> <sup>3</sup> 235	235
Dallas/Fort Worth	Love Field	426	299	×	14.7	×		×		<sup>4</sup> 1,240	×		1,240
Harlingen/San Benito	Harlingen Industrial Airpark	30	9		.6		200					<sup>1</sup> 209	409
Houston	Houston Intercontinental	185	139	×	7.4	×		×		<sup>4</sup> 1,111	×		1,111
Laredo	Laredo International	30	3	×	.5				×			<sup>1</sup> <sup>3</sup> 243	243
Lubbock	Lubbock Municipal	82	22	×	2.5	×						<sup>6</sup> 8	8
Midland/Odessa	Midland Air Terminal	89	25	×	2.0	×				<sup>2</sup> <sup>4</sup> 1,050	×		1,050
Mission/McAllen/Edinburg	Miller International	33	5	×	.6							<sup>1</sup> <sup>3</sup> 244	244
San Antonio	San Antonio International	197	63	×	9.2	×		×		<sup>4</sup> 953	×		953
Temple	Draughon-Miller	31	9		.6							<sup>1</sup> 209	209
Wichita Falls	Sheppard AFB	124	5	×	1.1	×		×		<sup>4</sup> 215	×		215
Vermont:													
Burlington	Burlington	65	10	×	1.9	×		×		<sup>4</sup> 162	×		162
White River Junction	Lebanon	14	4		.8							<sup>3</sup> 19	19
Virgin Islands:													
Christiansted, St. Croix	Alexander Hamilton	63	29	×	1.2	×						<sup>1</sup> 227	227
St. Thomas	Harry S. Truman	103	16	×	1.0	×						<sup>1</sup> 229	229
Virginia: Norfolk	Norfolk Municipal	102	42	×	4.2	×		×		<sup>4</sup> 879	×		879
Washington:													
Olympia	Olympia Municipal	23	1		1.4				×			<sup>1</sup> 132	132
Pasco/Kennewick Richland	Pasco Municipal	28	12	×	.8		200					<sup>1</sup> 203	403
Seattle/Tacoma	Seattle/Tacoma International	157	111	×	25.7	×			×	<sup>4</sup> 866	×		866
Walla Walla	Walla Walla City County	27	7	×	.6	×						<sup>1</sup> 153	153
West Virginia:													
Beckley	Raleigh County	12	3		.5				×			<sup>1</sup> 232	232
Charleston/Dunbar	Kanawha	76	25	×	5.3	×		×		<sup>4</sup> 135	×		135
Clarksburg/Fairmont	Benedum	28	7		.4							<sup>1</sup> <sup>3</sup> 236	436
Martinsburg	Martinsburg Municipal	19	2		.5	×	200					<sup>1</sup> <sup>3</sup> 121	121
Morgantown	Morgantown	36	7		.4		200		×			<sup>1</sup> 197	397
Parkersburg/Marietta	Wood County	27	6		1.2	×						<sup>3</sup> 19	19
Wisconsin:													
Beloit/Janesville	Rock County	53	5		.7	×						<sup>1</sup> 232	232
Eau Claire	Eau Claire Municipal	16	5	×	.3							<sup>1</sup> <sup>3</sup> 243	243
Green Bay/Clintonville	Austin Straubel	59	23	×	2.0	×				<sup>2</sup> <sup>4</sup> 1,050	×		1,050
La Crosse	La Crosse Municipal	40	6	×	.4		200					<sup>1</sup> <sup>3</sup> 247	447
Madison	Madison Municipal	108	28	×	3.1	×				<sup>2</sup> <sup>4</sup> 1,208	×		1,028
Wyoming:													
Jackson	Jackson Municipal		4									<sup>1</sup> 203	203
Riverton/Lander	Riverton Municipal	13	5									<sup>1</sup> <sup>3</sup> 321	321
Sheridan	Sheridan County	15	5									<sup>1</sup> <sup>3</sup> 270	270
		19	3	×	.1								
Total needs funded and programmed							6,800			69,659		23,098	99,557

<sup>1</sup> Planned instrument landing system. Planned facilities and equipment installations have been funded.

<sup>2</sup> Planned radar. Planned facilities and equipment installations have been funded.

<sup>3</sup> Planned compass locator. Planned facilities and equipment installations have been funded.

<sup>4</sup> Planned automation equipment. Planned facilities and equipment installations have been funded.

<sup>5</sup> Planned distance measuring equipment. Planned facilities and equipment installations have been funded.

<sup>6</sup> Planned runway visual range equipment. Planned facilities and equipment installations have been funded.





SCHEDULE IV.—Estimated costs for towers, radars, and landing systems included in FAA's 1972 budget for airports that do not have such facilities and equipment

[All figures in thousands]

State and community	Airports	Fiscal year 1970 traffic data				Tower		Radar		Instrument landing system		Total
		Total Itinerant operations	Air carrier itinerant operations	Turbojet service	Annual instrument approaches	Has tower	Budgeted (nonapproach control tower)	Has		Has ILS	Bndgeted	
								Radar	Radar service			
Alaska:												
Fairbanks	Fairbanks International	75	31	×	1. 2	×			×	×	<sup>1</sup> \$73	\$73
Juneau	Juneau Municipal	22	11	×	1. 5	×					<sup>1</sup> 73	73
Connecticut: New Haven	New Haven Municipal	49	2		. 4	×			×		<sup>1</sup> 73	73
Ohio: Cincinnati	Greater Cincinnati	135	93	×	1. 9	×		×		×	<sup>2</sup> 31	31
Oklahoma: Enid	Woodring	35	3		. 3		\$400		×			400
Washington: Seattle	Tacoma Industrial	22	2		1. 0		400		×	×		400
Total needs included in FAA's fiscal year 1972 budget							800				250	1, 050

<sup>1</sup> Planned distance measuring equipment. Planned facilities and equipment installations are included in FAA's fiscal year 1972 budget.

<sup>2</sup> Planned runway visual range equipment. Planned facilities and equipment installations are included in FAA's fiscal year 1972 budget.

Note: In its fiscal year 1972 budget, FAA has programed about \$10,200,000 to replace radar (transmitter-receiver) equipment at 8 locations, including the training facility at the FAA Aeronautical Center, with new radars. According to FAA the used radars are to be reassigned and installed at 7 airports that do not presently have radars and at 1 airport to replace an existing obsolete military radar. FAA plans to request funds (about \$800,000 for each location) for the installation of the used radars in a future budget. According to FAA officials, the airport locations that are candidates to receive the used radars are Springfield, Mo.; Savannah, Ga.; Portland, Maine; Daytona Beach and Tallahassee, Fla.; Duluth, Minn.; Evansville, Ind.; and Champaign, Ill.

# APPENDIX

## ALPA PROPOSAL FOR ACCELERATED INSTALLATION OF AIRPORT FACILITIES—OCTOBER 1971



AIR LINE PILOTS ASSOCIATION  
MUNSEY BUILDING, 1329 E STREET, N.W.  
WASHINGTON, D.C. 20004  
(202) 347-2211  
AFFILIATED WITH AFL-CIO

INT'L -----

November 1, 1971

Mr. John H. Shaffer, Administrator  
Federal Aviation Administration  
800 Independence Avenue, S. W.  
Washington, D. C. 20590

Dear Mr. Shaffer:

As you are well aware, the Air Line Pilots Association has been deeply concerned about the decreasing margin of safety our members and the passengers they are entrusted with are experiencing in the environment of the nation's air carrier airports. This concern has been conveyed to you and your staff on numerous occasions and in various ways, including participation in the National Aviation System Planning Review Conference held last April.

After an in-depth study of the current FAA ten-year plan and an analysis of the accident statistics for the last decade, one very definite conclusion is obvious:

The length of time now planned by your agency for the installation of landing aids is so inadequate that it can only invite more accidents, increased inconvenience to passengers and increased cost of operation for the airlines.

Based on our own extensive studies, we have developed a proposal for accelerated installation of airport facilities. That proposal is attached. Its basic aim is to eliminate the landing approach hazards which exist at many of today's air carrier airports, and we earnestly urge that your agency consider implementation of the improvements within the time limits specified.

You will find that we have divided our recommended program into two phases. Phase I consists of items that we believe can be accomplished within a two-year period. Phase II, the five-year program, are those items we believe must be accomplished within three years following Phase I completion.

Within two years of this month, we propose accomplishment of the following Phase I program at every airport served by scheduled airlines in the United States:

(27)



1. At least one Instrument Landing System (ILS).
2. An approach light system installed at all ILS locations.
3. A Visual Approach Slope Indicator (VASI) for every runway approved for air carrier operations.
4. Runway End Identifier Lights (REIL) for every runway approved for air carrier operations that does not have approach lights.
5. A control tower at every airline airport.
6. Radar service at 114 airports now without it.

Within five years, our plan calls for, in addition to Phase I above, completion of the following at every airport served by scheduled airlines in the United States:

1. An Instrument Landing System (ILS) at the end of each runway approved for air carrier operations.
2. Approach lights at the end of each runway approved for air carrier operations.
3. Surveillance radar service at airports having air carrier operations.

The estimated cost of our two-year proposal would be approximately \$450.9 million; the additional cost of the five-year program would total about \$1,014.9 million.<sup>(1)</sup> However, with some foreseen alternatives, procurement and installation costs could be reduced to \$312.5 million and \$655.5 million respectively.<sup>(2)</sup>

The above program would create thousands of jobs in the electronic and construction industry, to boost our economy, which is definitely in the public interest. Tax money to start this program is already available in the Airport/Airways Trust Fund.

We believe that your agency has not been attuned to the increasingly dangerous airport environment that airline pilots must endure on a daily basis. Studies show that in the last ten years, the fatalities associated with non-precision approach accidents have been approximately ten times those associated with ILS approaches.

If you concur with our program, we will join with you in fighting for it. If not, our obligation lies in convincing the Congress and the general public that such a program is desperately needed to save the lives of airline passengers and crews that will surely be lost over the

---

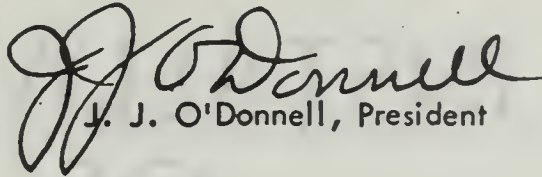
(1) See Section II and Section III of the attached proposal.

(2) Ibid.

next decade because of inattention to the serious deficiencies in our nation's airports.

Each day that the minimum actions outlined here are delayed, our very lives and the lives of innocent passengers we transport are in deeper jeopardy. Accordingly, we must respectfully request your reply concerning the ALPA proposal within 30 days from the date of this letter.

With sincere personal regards,



J. J. O'Donnell, President

JJO'D/BB

Attachment: "ALPA Proposal for Accelerated Installation of Airport Facilities"

ALPA PROPOSAL  
FOR  
ACCELERATED  
INSTALLATION  
OF  
AIRPORT FACILITIES

OCTOBER 1971



AIR LINE PILOTS ASSOCIATION  
1329 E STREET N.W.  
WASHINGTON, D.C.



## ALPA PROPOSAL FOR ACCELERATED INSTALLATION OF AIRPORT FACILITIES

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Attachment C	ATA and ALPA Objectives for Airport Facility Installations
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## ALPA PROPOSAL FOR ACCELERATED INSTALLATION OF AIRPORT FACILITIES

## SECTION I

SUMMARY

The Association has long pressed for accelerating installation of available landing aids and adequate runways at all airports having scheduled air carrier operations. In this regard, we strongly urge that appropriations and installation arrangements be programmed to enable realizing these objectives.

The non-precision approach accidents have been permitted to continue far too long. An instrument landing system (ILS) was invented to prevent this type accident. ILS has been in general use for more than twenty years. Studies show that in the last ten years the fatalities from non-precision approach accidents have been approximately ten times those associated with ILS approaches. ILS also results in much more reliable service, reducing inconvenience to passengers and the cost of operation for airlines. Installation of the ILS facilities currently programmed by the FAA will require approximately ten years. Even then, only about one half of the runway ends usable by scheduled airlines will have ILS. According to recent testimony by John Shaffer, the FAA may not order more ILSs until after 1977 (see Attachment B). This delay is completely unacceptable to ALPA. The new microwave (or other) type ILS can be installed at new airports and runways when it becomes operational. We must not wait for these futuristic developments, as we have been doing for the past thirty years.

To eliminate the approach hazards which presently exist, ALPA proposes two accelerated installation programs of necessary and available airport facilities as follows:

The Two Year Program - Phase I (Detailed in Section II)

1. At least one ILS installed at every airport served by scheduled airlines.
2. An Approach Light System installed at above ILS locations.
3. VASI (Visual Approach Slope Indicator) on every runway:

4. REIL (Runway End Identifier Lights) on every runway that does not have approach lights.
5. A control tower at every airline airport.
6. Radar service at 114 more airports.

The Five Year Program - Phase II (Detailed in Section III) - In addition to Phase I above.

1. ILS at the end of each runway approved for air carrier operations.
2. Approach lights at the end of each runway approved for air carrier operations.
3. Airport Surveillance Radar services at every airport serving scheduled airlines.

To support the above programming, we have prepared Attachments A through H in Section IV -- Reference Material.

Attachment A shows the present ILS contract status and gives an indication of manufacturers capabilities.

Attachment B shows the FAA present position on additional ILSs on contracts. It indicates FAA's unwillingness to order more ILSs within an acceptable time limit.

Attachment C compares the ALPA and ATA ultimate objectives for airport facility installations.

Attachment D compares the ALPA/ATA/FAA objectives for 1973.

Attachment E provides the facility installation status at 1981, as proposed by FAA, and shows the deficiencies which will still exist.

Attachment F provides a summary of cost of facility by states.

Attachment G provides detailed needed facilities and cost by state.

Attachment H provides the present facility status by state and airport.

Attachment I provides definition of abbreviations.



ALPA strongly recommends that this Phase I and Phase II program be adopted by the FAA, to assure full installation of facilities by the time limits set. It is our firm position that such a program is in the best public interest for safe and on-time airline scheduling.

The last page in this section contains a cost summary of the Phase I two year program and Phase II five year program. Section II and Section III following provide the derivation of the Phase I and Phase II program.

COST SUMMARY

## ALPA PROPOSAL FOR ACCELERATED INSTALLATION OF AIRPORT FACILITIES

Item	Cost in Millions 2-Yr. Program	Additional Cost in Millions 5-Yr. Program	Cost in Millions Complete Program
ILS INSTALLATIONS	\$64.9	\$361.3	\$426.2
(Alternate) *	(26.7)	(148.7)	(175.4)
APPROACH LIGHTS	53.4	293.6	347.0
(Alternate) **	(26.7)	(146.8)	(173.5)
VASI INSTALLATIONS	41.2	---	41.2
REIL INSTALLATIONS	12.3	---	12.3
CONTROL TOWERS	96.7	---	96.7
(Alternate) ***	(23.2)	---	(23.2)
RADAR SERVICE	<u>182.4</u>	<u>360.0</u>	<u>542.4</u>
Program Cost	\$450.9	\$1014.9	\$1465.8
(Program Alternate Cost) ****	(312.5)	(655.5)	(968.0)

\* New CAT I ILSs should only cost \$100,000 installed, according to Manufacturers (see Attachment A).

\*\* ALSF is the full approach light system with flashers and is suitable for CAT II operations. Several less expensive approach light systems are available for low traffic density locations for \$100,000 or less.

\*\*\* Mobile towers and other smaller towers are available at approximately \$100,000.

\*\*\*\* The details on how these alternate costs were obtained are in Section II and III following and show a saving of about half a billion dollars for the whole program.

## ALPA PROPOSAL FOR ACCELERATED INSTALLATION OF AIRPORT FACILITIES

## SECTION II

## THE TWO YEAR PROGRAM - PHASE I

The Phase I program to be completed in two years is composed of the following:

1.	Install one ILS at every airport served by scheduled airlines:	(\$Millions)
	267 @ \$243,000	\$64.9
	(267 @ \$100,000 possible alternate cost)	(\$26.7)
2.	Install an approach light system at ILS locations in Item 1:	
	ALSF* - 267 @ \$200,000	\$53.4
	(Alternate Cost - 267 @ \$100,000)	(\$26.7)
3.	Install VASI on every runway (4-box system):	
	1918 @ \$21,500	\$41.2
4.	Install REIL on every runway that does not have approach lights:	
	1231 @ \$10,000	\$12.3
5.	Install a control tower at every airline airport:	
	232 @ \$417,000	\$96.7
	(232 @ \$100,000 possible alternate cost)	(\$23.2)
6.	Provide radar service as proposed by FAA in 10-year plan:	
	114 @ \$1.6 Million	<u>\$182.4</u>
	TOTAL COST OF PHASE I PROGRAM	\$450.9
	(POSSIBLE ALTERNATE TOTAL COST)	(\$312.5)

The following pages show in detail how these figures were obtained to make up the Phase I program.

ALSF is the full approach light system with flashers and is suitable for Cat II operations. Several less expensive approach light systems are available for low traffic density locations for \$100,000 or less.



PHASE 1 - Item 1:

Install one ILS at every airport served by scheduled airlines.

ANALYSIS:

Number of airline airports in 50 States and Caribbean	492
Number of airports presently having at least one ILS	225
Number of airline airports having NO ILSs	267

COST: (\$Millions)

Cost of at least one ILS at every airport served by  
scheduled airlines:

267 @ \$243,000	\$64.9
(267 @ \$100,000 possible alternate cost)	(\$26.7)

NOTE: Numbers and cost estimates based on National Aviation System Plan (NASP) 1972-1981 made by FAA in March, 1971.

New CAT I ILSs should only cost \$100,000 installed, according to Manufacturers (see Attachment A).

PHASE I - Item 2:

Install an approach light system at ILS locations in Item 1.

ANALYSIS:

Number of airline airports having no ILS or approach lights	267
-------------------------------------------------------------	-----

<u>COST:</u>	(\$Millions)
--------------	--------------

267 ALSF* @ \$200,000	\$53.4
-----------------------	--------

(Alternate cost - 267 @ \$100,000)	(\$26.7)
------------------------------------	----------

NOTE: Number and cost estimates based on National Aviation System Plan (NASP) 1972-1981 made by FAA in March 1971.

Runways and runway ends are included which are over 4,000 feet in length, from ALPA research using the Jeppesen Manual.

\* ALSF is the full approach light system with flashers and is suitable for Cat II operations. Several less expensive approach light systems are available for low traffic density locations for \$100,000 or less.

PHASE I - Item 3:

Install VASI on every runway.

ANALYSIS:

Number of runway ends at airline airports	2028
Present number of VASI installed	<u>-110</u>
 TOTAL RUNWAYS NEEDING VASIs	 1918

COST:

(\$Millions)

VASI Unit Cost - \$21,500 (4-Box Unit)	
VASI TOTAL COST - 1918 @ \$21,500	\$41.2

NOTE:

Number and cost estimates based on National Aviation System Plan (NASP) 1972 - 1981, made by FAA in March 1971.

Runways and runway ends are included which are over 4,000 feet in length, from ALPA research using the Jappesen Manual.



PHASE I - Item 4:

Install REIL on every runway that does not have approach lights.

ANALYSIS:

Number of runway ends at airline airports	2028
Number of approach light systems installed	-295
Number of approach light systems to be installed under Phase I	-267
Number of REIL presently installed	<u>-235</u>
TOTAL RUNWAYS NOT NEEDING REILs	-797
TOTAL RUNWAYS NEEDING REILs	1231

COST:

(\$Millions)

REIL Unit Cost \$10,000

REIL TOTAL COST - 1231 @ \$10,000	\$12.3
-----------------------------------	--------

NOTE: Number and cost estimates based on National Aviation System Plan (NASP) 1972-1981 made by FAA in March, 1971.

Runways and runway ends are included which are over 4,000 feet in length from ALPA research using the Jeppesen Manual.

PHASE I - Item 5:

Install a control tower at every airline airport.

ANALYSIS:

Number of airline airports in 50 States and Caribbean	492
-------------------------------------------------------	-----

Number of airline airport towers	<u>-260</u>
----------------------------------	-------------

Number of airline towers needed	232
---------------------------------	-----

COST: (\$Millions)

Unit Cost of Tower \$417,000

(Unit Cost of Mobile Tower - possible alternate - \$100,000)

CONTROL TOWERS - 232 @ \$417,000	\$96.7
----------------------------------	--------

(MOBILE TOWERS - 232 @ \$100,000)	(\$23.2)
-----------------------------------	----------

NOTE: Number and cost estimates based on National Aviation System Plan (NASP) 1972-1981 made by FAA in March, 1971.

Many of these could be mobile towers at approximately \$100,000.

PHASE I - Item 6:

Provide radar service as proposed by FAA in 10-year plan.

ANALYSIS & COST:

(\$Millions)

Unit cost of a surveillance radar - \$1.6 Million

FAA Plan for 114 new units by 1981: 114 @ \$1.6 Million \$182.4

NOTE: Number and cost estimates based on National Aviation System Plan  
(NASP) 1972-1981 made by FAA in March, 1971.



## ALPA PROPOSAL FOR ACCELERATED INSTALLATION OF AIRPORT FACILITIES

## SECTION III

THE FIVE YEAR PROGRAM - PHASE II

The Phase II program to be completed in five years is composed of the following, in addition to Phase I items:

(\$Millions)

1. ILS installed at the end of each runway approved for air carrier operations:

1,487 ILSs @ \$243,000 \$361.3

(1,487 ILSs @ \$100,000 alternate cost) (\$148.7)

2. Approach lights installed at the end of each runway approved for air carrier operations:

1,468 approach light systems @ \$200,000 \$293.6

(1,468 approach light systems @ \$100,000 alternate cost) (\$146.8)

3. Surveillance radar services at every airport serving scheduled airlines:

225 @ \$1.6 Million \$360.00

TOTAL COST OF PHASE II PROGRAM \$1014.9

(POSSIBLE ALTERNATE TOTAL COST) (\$655.5)

The following pages, and preceding Phase I pages, show in detail how these figures were obtained to make up the Phase II program.

PHASE II - Item 1:

ILS installed at the end of each runway approved for air carrier operations.

ANALYSIS:

Number of airline airports in 50 States and Caribbean	492
Number of runway ends at airline airports	2028
Number of ILSs presently installed at airline airports	-274
Number of ILSs installed under Phase I	<u>-267</u>
ILSs needed to accomplish the program	1487

COST:

(\$Millions)

Average programmed cost per ILS - \$243,000

(Alternate ILS cost - \$100,000)

1487 ILSs @ \$243,000 \$361.3

(1487 ILSs @ \$100,000 alternate cost) (\$148.7)

NOTE: Numbers and cost estimates based on National Aviation System Plan (NASP) 1972-1981, made by FAA in March 1971.

Runways and runway ends are included which are over 4,000 feet in length, from ALPA research using the Jeppesen Manual.

This includes ILS on a small number of runways with obstructions which by criteria could not use a glide path, such as Kansas City to North, San Diego and St. Thomas.

New CAT I ILS should only cost \$100,000 installed according to manufacturers (see Attachment A).

PHASE II - Item 2:

Approach lights installed at the end of each runway approved for air carrier operations.

ANALYSIS:

Number of airline airports in 50 States and Caribbean	492
Number of runway ends at airline airports	2028
Current installation of approach light systems	-295
Phase I installation of approach light systems	<u>-265</u>
Number of runways needing approach light systems	1468

COST:

(\$Millions)

Unit cost ALSF\* @ \$200,000

1468 systems @ \$200,000 \$293.6

(alternate cost 1468 @ \$100,000) (\$146.8)

NOTE: Numbers and cost estimates based on National Aviation System Plan (NASP) 1972-1981, made by FAA in March 1971.

Runways and runway ends are included which are over 4,000 feet in length, from ALPA research using the Jeppesen Manual.

\* ALSF is the full approach light system with flashers and is suitable for Cat II operations. Several less expensive approach light systems are available for low traffic density locations for \$100,000 or less.



PHASE II - Item 6:

Surveillance radar services at every airport serving scheduled airlines.

ANALYSIS:

Number of airline airports in 50 States and Caribbean	492
Number of airports having surveillance radar service available	-153
Number of airports having surveillance radar service in Phase I	<u>-114</u>
Number of surveillance radar needed for airline airports	225

COST:

(\$Millions)

Unit cost of ASR/ATCRBS - \$1,600,000

225 surveillance radar systems @ \$1,600,000 \$360.0

FAA plan for 114 new units and 87 existing units by 1981  
(per the \*NASP)

\$182.0

NOTE: Numbers and cost estimates based on National Aviation System Plan (NASP) 1972-1981, made by FAA in March 1971.

All these may not be needed since one surveillance radar unit may serve more than one airport. This must be carefully analyzed.

## ALPA PROPOSAL FOR ACCELERATED INSTALLATION OF AIRPORT FACILITIES

## SECTION IV

REFERENCE MATERIAL

ATTACHMENT A, (1)

ILS - CONTRACT & MANUFACTURING STATUS

In order to more fully understand the ILS procurement and manufacturing problems, both prime contractors with the FAA for ILSs were contacted. Also the FAA contract representative was phoned for verification of manufacturers statements. As a result the following is believed to be factual:

Airborne Instrument Laboratory has a contract for 99 ILSs

3 With dual capture effect on trailers	@ \$103,000
2 With dual null reference	@ 82,000
12 With single capture	@ 80,000
59 With single null	@ 64,000
13 Single localizer	@ 45,000
5 Dual null glide slopes	@ 43,000
5 Single null glide slopes	@ 34,000
<u>99</u>	

Total Value of Contract \$6,329,000

Contract given June, 1969, with a 15 month lead time allowing for the first unit to have a 60 day installation and 60 day test. Three of these are installed on trailers

Production deliveries will start July, 1971, at a programmed rate of 4 per month. This means that on schedule delivery will take until July, 1973.

Wilcox contracted to deliver 49 ILSs

1 Capture glide slope	@ \$110,000 + \$83,000 Test Equip
-----------------------	-----------------------------------

36 Full width null	@ \$139,000 to \$175,000
--------------------	--------------------------

12 Partial systems	
--------------------	--

Total Value of Contract \$4,465,000

Contract given December, 1970, with a 9 month lead time plus 60 day for test installation and 60 day test before next delivery. Production deliveries will start January, 1972, at a rate of 4/month. This means that on schedule deliveries will take at least through December, 1972.

The total of these two contracts includes:

113	Complete Systems Purchased
-----	----------------------------

<u>35</u>	Partial Systems Purchased
-----------	---------------------------

148	Complete and Partial Systems
-----	------------------------------

Number of ILSs promised by FAA in a recent meeting, not confirmed by checking, was 173.

Information from Joe Tippetts, FAA; Fritz Johnson of Airborne Instrument Laboratory; and Robert Wolin of Wilcox.

Both manufacturers were very optimistic when asked what they could do to up their delivery rate to about 300/yr. They visualized having to put an extra shifts, work weekends, and make turnkey installations because the FAA cannot install more ILSs than they are getting now. FAA tells us they can make the installations as deliveries are made. We are all witness to the slowness of the installations. See Attachment B. Manufacturers tell us that they can manufacturer and install a CAT 1 ILS for \$100,000.



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FAA POSITION ON NEW CONVENTIONAL INSTRUMENTLANDING SYSTEM CONTRACTS

"FAA may not buy many more conventional type instrument landing systems following installation of the 158 systems currently on order, Administrator John Shaffer told Congress. No ILS systems are on order in the fiscal 1972 budget request. Next buy may be in micro-wave systems.

Shaffer told the House Appropriations Committee in recent hearings that no funds are included in the present budget because those now on order, for 138 locations, "will essentially saturate our ability to do the installation and checkout job over the calendar period that this budget covers...We are at that critical point in system development where we may go to a different type system, the scanning beam microwave ILS. About this point I think we may be nearing the end of the installation program for the old style equipment."

However, installation of the new equipment would not begin until 1977 or later, and it will be phased in over a 10-15 year period to "permit the people who have invested in the present avionics...to amortize their investment."

Presently FAA has "only some very early models of microwave instrument landing systems under test," Shaffer said. "They are still a long way from being fully operationally acceptable."

ATA & ALPA OBJECTIVES FOR  
AIRPORT FACILITIES INSTALLATIONS

ULTIMATE OBJECTIVES

	ALPA *	ATA **
CONTROL TOWER AT EVERY AIRLINE AIRPORT	X	X
TERMINAL RADAR SERVICE AT EVERY AIRLINE AIRPORT	X	X
BRIGHT TUBE RADAR DISPLAY ON ALL TOWER RADARS	X	X
IMPROVED WEATHER DISPLAYS ON ATC RADAR	X	X
ILS ON EVERY RUNWAY END COMMONLY USED BY AIR CARRIER JETS (WHERE WEATHER IS A FACTOR)	X	X
APPROACH LIGHTS ON EACH ILS RUNWAY (MINIMUM)	X	X
ALL RUNWAY APPROACH ENDS SHOULD HAVE VASI	X	X
ALL RUNWAY APPROACH ENDS NOT HAVING APPROACH LIGHTS SHOULD HAVE REIL	X	

\* Air Line Pilots Association

\*\* Air Transport Association

## ATTACHMENT D

COMPARISONATA-ALPA-FAA INTERIM OBJECTIVES BY 1973

	<u>COST IN MILLIONS</u>			
	<u>ALPA<sup>3</sup></u> (Alternate Cost)	<u>ALPA<sup>2</sup></u>	<u>ATA</u>	<u>FAA</u>
ADDITIONAL 148 ILSs DELIVERED <sup>1</sup>				\$10.8
ADDITIONAL 148 + 34 ILS INSTALLED			\$42.6	
ADDITIONAL 148 + 119 ILS INSTALLED (1 at every airline airport)	(\$26.7)	\$64.9		
MALS/RAIL 167 PROGRAMMED				\$11.5
MALS/RAIL 191 + 10 ALSF			\$15.3	
ALSF 267	(\$26.7)	\$53.4		
VASI/REIL 25 (Programmed)				\$ .8
VASI/416 New Locations (No REILs)			\$ 8.9	
VASI 1918 New Locations	\$41.2	\$41.2		
REIL 1231	\$12.3	\$12.3		
Control Towers 70			\$29.2	\$29.2
Control Towers 232	(\$23.2)	\$96.7		
Radar Service 18			\$28.8	\$28.8
Radar Service 114	\$182.4	\$182.4		
	=====	=====	=====	=====
	(\$312.5)	\$450.9	\$124.8	\$81.1

1 35 of these are partial systems.

2 Number and cost estimate based on National Aviation System Plan.

3 Based on alternate costs determined from industry sources.



## ATTACHMENT E

1981 FAA PLAN FOR THE UNITED STATES OF AMERICA & CARIBBEAN  
AIRPORT FACILITIES INVENTORY

	1981 PLANNED STATUS	
	NUMBER INSTALLED	ADDITIONAL ITEMS NEEDED
Scheduled Airline Airports	<u>492</u>	<u>          </u>
Towers (Approximate)	<u>465</u>	<u>27</u>
Radar Service	<u>273</u>	<u>219</u>
Runway Ends	<u>2028</u>	<u>          </u>
ILSs	<u>1089</u>	<u>939</u>
Approach Lights	<u>1080</u>	<u>948</u>
VASI	<u>469</u>	<u>1559</u>
REIL	<u>354</u>	<u>594</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000 (\$100,000)	x	<u>27</u>	=	\$ <u>11.3</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>219</u>	=	\$ <u>350.4</u> Million
ILSs <sup>*3</sup>	\$243,000 (\$100,000)	x	<u>939</u>	=	\$ <u>228.2</u> Million
Approach Lights <sup>*4</sup>	\$200,000 (\$100,000)	x	<u>948</u>	=	\$ <u>189.6</u> Million
VASI	\$ 21,500	x	<u>1559</u>	=	\$ <u>33.5</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>594</u>	=	\$ <u>5.9</u> Million
				<sup>*7</sup> (\$557.8)	
Approximate total cost of desired equipment installation				=	\$ <u><u>818.9</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.  
 \*7 Total using lowest estimates of cost.

STATE  
SUMMARY FACILITIES COST

<u>State</u>	<u>Cost by State Phase I &amp; Phase II</u>
Alabama	\$ 22.4
Alaska	80.0
Arizona	22.8
Arkansas	31.8
California	89.6
Colorado	32.8
Connecticut	19.0
Delaware	16.0
Florida	41.3
Georgia	34.9
Hawaii	19.6
Idaho	17.4
Illinois	49.4
Indiana	31.2
Iowa	34.7
Kansas	32.3
Kentucky	13.2
Louisiana	24.6
Maine	10.1
Maryland	1.93
Massachusetts	11.4
Michigan	68.9
Minnesota	30.2
Mississippi	42.7
Missouri	22.7
Montana	42.4
Nebraska	47.9
Nevada	11.7
New Hampshire	9.6
New Jersey	9.6
New Mexico	34.4
New York	44.0
North Carolina	32.5
North Dakota	18.1
Ohio	21.8
Oklahoma	26.0
Oregon	43.0
Pennsylvania	26.4
Puerto Rico	0.45
Rhode Island	2.3
South Carolina	19.3
South Dakota	26.9

<u>State</u>	<u>Cost by State Phase I &amp; Phase II</u>
Tennessee	\$ 21.0
Texas	94.2
Utah	12.3
Vermont	.49
Virginia	28.1
Virgin Islands	5.07
Washington	33.8
West Virginia	17.3
Wisconsin	32.3
Wyoming	32.0
	<hr/>
<u>Approximate Facilities Total Cost *</u>	<u>\$1,465.8</u>

\*Ref: "Cost Summary", Section I, Page 5



## DETAILED NEEDED FACILITY COST BY STATE

## ATTACHMENT G

STATE OF ALABAMA

## AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>5</u>	<u>4</u>
Radar Service	<u>6</u>	<u>3</u>
Runway Ends	<u>38</u>	<u>          </u>
ILSs	<u>5</u>	<u>33</u>
Approach Lights	<u>4</u>	<u>34</u>
VASI	<u>1</u>	<u>37</u>
REIL	<u>0</u>	<u>34</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>4</u>	=	\$ <u>1.7</u>	Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>3</u>	=	\$ <u>4.8</u>	Million
ILSs <sup>*3</sup>	\$243,000	x	<u>33</u>	=	\$ <u>8.0</u>	Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>34</u>	=	\$ <u>6.8</u>	Million
VASI	\$ 21,500	x	<u>37</u>	=	\$ <u>.8</u>	Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>34</u>	=	\$ <u>.3</u>	Million
Approximate total cost of desired equipment installation				=	\$ <u><u>22.4</u></u>	Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF ALASKA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>26</u>	<u>      </u>
Towers	<u>9</u>	<u>17</u>
Radar Service	<u>4</u>	<u>22</u>
Runway Ends	<u>72</u>	<u>      </u>
ILSs	<u>6</u>	<u>66</u>
Approach Lights	<u>20</u>	<u>52</u>
VASI	<u>22</u>	<u>50</u>
REIL	<u>6</u>	<u>46</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>17</u>	=	\$ <u>7.1</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>22</u>	=	\$ <u>35.2</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>66</u>	=	\$ <u>16.0</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>52</u>	=	\$ <u>10.4</u> Million
VASI	\$ 21,500	x	<u>50</u>	=	\$ <u>10.8</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>46</u>	=	\$ <u>.5</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>80.0</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturer tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, could be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF ARIZONA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>7</u>	<u>      </u>
Towers	<u>3</u>	<u>4</u>
Radar Service	<u>2</u>	<u>5</u>
Runway Ends	<u>28</u>	<u>      </u>
ILSs	<u>0</u>	<u>28</u>
Approach Lights	<u>1</u>	<u>27</u>
VASI	<u>2</u>	<u>26</u>
REIL	<u>2</u>	<u>25</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>4</u>	=	\$ <u>1.7</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>5</u>	=	\$ <u>8.0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>28</u>	=	\$ <u>6.8</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>27</u>	=	\$ <u>5.4</u> Million
VASI	\$ 21,500	x	<u>26</u>	=	\$ <u>.6</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>25</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>22.8</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that a less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF ARKANSAS  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>4</u>	<u>5</u>
Radar Service	<u>1</u>	<u>8</u>
Runway Ends	<u>36</u>	<u>          </u>
ILSs	<u>4</u>	<u>32</u>
Approach Lights	<u>4</u>	<u>32</u>
VASI	<u>0</u>	<u>36</u>
REIL	<u>2</u>	<u>30</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>5</u>	=	\$ <u>2.1</u>	Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>8</u>	=	\$ <u>14.4</u>	Million
ILSs <sup>*3</sup>	\$243,000	x	<u>32</u>	=	\$ <u>7.8</u>	Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>32</u>	=	\$ <u>6.4</u>	Million
VASI	\$ 21,500	x	<u>36</u>	=	\$ <u>.8</u>	Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>30</u>	=	\$ <u>.3</u>	Million
Approximate total cost of desired equipment installation				=	\$ <u><u>31.8</u></u>	Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF CALIFORNIA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>33</u>	<u>          </u>
Towers	<u>20</u>	<u>13</u>
Radar Service	<u>12</u>	<u>21</u>
Runway Ends	<u>130</u>	<u>          </u>
ILSs	<u>21</u>	<u>109</u>
Approach Lights	<u>25</u>	<u>105</u>
VASI	<u>5</u>	<u>125</u>
REIL	<u>12</u>	<u>93</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>13</u>	=	\$ <u>5.4</u>	Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>21</u>	=	\$ <u>33.6</u>	Million
ILSs <sup>*3</sup>	\$243,000	x	<u>109</u>	=	\$ <u>26.5</u>	Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>105</u>	=	\$ <u>21.0</u>	Million
VASI	\$ 21,500	x	<u>125</u>	=	\$ <u>2.2</u>	Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>93</u>	=	\$ <u>.9</u>	Million
Approximate total cost of desired equipment installation				=	\$ <u><u>89.6</u></u>	Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF COLORADO  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>11</u>	<u>          </u>
Towers	<u>4</u>	<u>7</u>
Radar Service	<u>2</u>	<u>9</u>
Runway Ends	<u>38</u>	<u>          </u>
ILSs	<u>6</u>	<u>32</u>
Approach Lights	<u>4</u>	<u>34</u>
VASI	<u>4</u>	<u>34</u>
REIL	<u>3</u>	<u>31</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>7</u>	=	\$ <u>2.9</u>	Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>9</u>	=	\$ <u>14.3</u>	Million
ILSs <sup>*3</sup>	\$243,000	x	<u>32</u>	=	\$ <u>7.8</u>	Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>34</u>	=	\$ <u>6.8</u>	Million
VASI	\$ 21,500	x	<u>34</u>	=	\$ <u>.7</u>	Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>31</u>	=	\$ <u>.3</u>	Million
Approximate total cost of desired equipment installation				=	\$ <u><u>32.8</u></u>	Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF CONNECTICUT  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>5</u>	<u>          </u>
Towers	<u>3</u>	<u>2</u>
Radar Service	<u>1</u>	<u>4</u>
Runway Ends	<u>26</u>	<u>          </u>
ILSs	<u>1</u>	<u>25</u>
Approach Lights	<u>1</u>	<u>25</u>
VASI	<u>2</u>	<u>24</u>
REIL	<u>7</u>	<u>18</u>

APPROXIMATE COS. OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u>	Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>4</u>	=	\$ <u>6.4</u>	Million
ILSs <sup>*3</sup>	\$243,000	x	<u>25</u>	=	\$ <u>6.1</u>	Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>25</u>	=	\$ <u>5.0</u>	Million
VASI	\$ 21,500	x	<u>24</u>	=	\$ <u>.5</u>	Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>18</u>	=	\$ <u>.2</u>	Million
Approximate total cost of desired equipment installation				=	\$ <u><u>19.0</u></u>	Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, could be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF DELAWARE

## AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>1</u>	<u>0</u>
Towers	<u>1</u>	<u>0</u>
Radar Service	<u>1</u>	<u>0</u>
Runway Ends	<u>8</u>	
ILSs	<u>1</u>	<u>7</u>
Approach Lights	<u>1</u>	<u>7</u>
VASI	<u>0</u>	<u>8</u>
REIL	<u>0</u>	<u>7</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>0</u>	=	\$ <u>0</u>	Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>0</u>	=	\$ <u>0</u>	Million
ILSs <sup>*3</sup>	\$243,000	x	<u>7</u>	=	\$ <u>1.7</u>	Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>7</u>	=	\$ <u>14.0</u>	Million
VASI	\$ 21,500	x	<u>8</u>	=	\$ <u>.2</u>	Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>7</u>	=	\$ <u>.1</u>	Million
Approximate total cost of desired equipment installation				=	\$ <u><u>16.0</u></u>	Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILS should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF FLORIDA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Schedule Airline Airports	<u>18</u>	<u>          </u>
Towers	<u>16</u>	<u>2</u>
Radar Service	<u>12</u>	<u>6</u>
Runway Ends	<u>76</u>	<u>          </u>
ILSs	<u>13</u>	<u>63</u>
Approach Lights	<u>9</u>	<u>67</u>
VASI	<u>6</u>	<u>70</u>
REIL	<u>0</u>	<u>67</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u>	Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>6</u>	=	\$ <u>9.6</u>	Million
ILSs <sup>*3</sup>	\$243,000	x	<u>63</u>	=	\$ <u>15.3</u>	Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>67</u>	=	\$ <u>13.4</u>	Million
VASI	\$ 21,500	x	<u>70</u>	=	\$ <u>1.5</u>	Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>67</u>	=	\$ <u>.7</u>	Million

Approximate total cost of desired equipment  
installotion = \$ 41.3 Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
  - \*2 More than one airport may use the same radar facilities.
  - \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
  - \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
  - \*5 These required numbers can be reduced by the number of approach light systems installed.
  - \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF GEORGIA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>10</u>	<u>          </u>
Towers	<u>6</u>	<u>4</u>
Radar Service	<u>4</u>	<u>6</u>
Runway Ends	<u>48</u>	<u>          </u>
ILSs	<u>7</u>	<u>41</u>
Approach Lights	<u>6</u>	<u>42</u>
VASI	<u>2</u>	<u>46</u>
REIL	<u>1</u>	<u>41</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>4</u>	=	\$ <u>1.7</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>6</u>	=	\$ <u>9.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>41</u>	=	\$ <u>10.0</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>42</u>	=	\$ <u>8.4</u> Million
VASI	\$ 21,500	x	<u>46</u>	=	\$ <u>1.0</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>41</u>	=	\$ <u>.4</u> Million
Approximate total cost of deicing equipment installation				=	\$ <u><u>31.1</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that a less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF HAWAII  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>7</u>	<u>      </u>
Towers	<u>5</u>	<u>2</u>
Radar Service	<u>1</u>	<u>6</u>
Runway Ends	<u>22</u>	<u>      </u>
ILSs	<u>3</u>	<u>19</u>
Approach Lights	<u>2</u>	<u>20</u>
VASI	<u>3</u>	<u>19</u>
REIL	<u>1</u>	<u>19</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>6</u>	=	\$ <u>9.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>19</u>	=	\$ <u>4.6</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>20</u>	=	\$ <u>4.0</u> Million
VASI	\$ 21,500	x	<u>19</u>	=	\$ <u>.4</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>19</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>19.6</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF IDAHO  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>5</u>	<u>      </u>
Towers	<u>3</u>	<u>2</u>
Radar Service	<u>0</u>	<u>5</u>
Runway Ends	<u>20</u>	<u>      </u>
ILSs	<u>2</u>	<u>18</u>
Approach Lights	<u>2</u>	<u>18</u>
VASI	<u>0</u>	<u>20</u>
REIL	<u>1</u>	<u>17</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>5</u>	=	\$ <u>8.0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>18</u>	=	\$ <u>4.4</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>18</u>	=	\$ <u>3.6</u> Million
VASI	\$ 21,500	x	<u>20</u>	=	\$ <u>.4</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>17</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>17.4</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Most manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. A more expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF ILLINOIS  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>14</u>	<u>          </u>
Towers	<u>9</u>	<u>5</u>
Radar Service	<u>3</u>	<u>11</u>
Runway Ends	<u>76</u>	<u>          </u>
ILSs	<u>13</u>	<u>63</u>
Approach Lights	<u>14</u>	<u>62</u>
VASI	<u>3</u>	<u>73</u>
REIL	<u>26</u>	<u>36</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>5</u>	=	\$ <u>2.1</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>11</u>	=	\$ <u>17.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>63</u>	=	\$ <u>15.3</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>62</u>	=	\$ <u>12.4</u> Million
VASI	\$ 21,500	x	<u>73</u>	=	\$ <u>1.6</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>36</u>	=	\$ <u>.4</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>49.4</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF INDIANA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>10</u>	<u>          </u>
Towers	<u>6</u>	<u>4</u>
Radar Service	<u>2</u>	<u>8</u>
Runway Ends	<u>42</u>	<u>          </u>
ILSs	<u>6</u>	<u>36</u>
Approach Lights	<u>8</u>	<u>34</u>
VASI	<u>1</u>	<u>41</u>
REIL	<u>5</u>	<u>29</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>4</u>	=	\$ <u>1.7</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>8</u>	=	\$ <u>12.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>36</u>	=	\$ <u>8.7</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>34</u>	=	\$ <u>6.8</u> Million
VASI	\$ 21,500	x	<u>41</u>	=	\$ <u>.9</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>29</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>31.2</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF IOWA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>10</u>	<u>        </u>
Towers	<u>4</u>	<u>6</u>
Radar Service	<u>1</u>	<u>9</u>
Runway Ends	<u>42</u>	<u>        </u>
ILSs	<u>4</u>	<u>38</u>
Approach Lights	<u>5</u>	<u>37</u>
VASI	<u>0</u>	<u>42</u>
REIL	<u>5</u>	<u>32</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>6</u>	=	\$ <u>2.5</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>9</u>	=	\$ <u>14.4</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>38</u>	=	\$ <u>9.2</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>37</u>	=	\$ <u>7.4</u> Million
VASI	\$ 21,500	x	<u>42</u>	=	\$ <u>.9</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>32</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>34.7</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. If a less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF KANSAS  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>        </u>
Towers	<u>3</u>	<u>6</u>
Radar Service	<u>2</u>	<u>7</u>
Runway Ends	<u>42</u>	<u>        </u>
ILSs	<u>3</u>	<u>39</u>
Approach Lights	<u>3</u>	<u>39</u>
VASI	<u>0</u>	<u>42</u>
REIL	<u>2</u>	<u>37</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>6</u>	=	\$ <u>2.5</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>7</u>	=	\$ <u>11.2</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>39</u>	=	\$ <u>9.5</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>39</u>	=	\$ <u>7.8</u> Million
VASI	\$ 21,500	x	<u>42</u>	=	\$ <u>.9</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>37</u>	=	\$ <u>.4</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>32.3</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF KENTUCKY  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>5</u>	<u>      </u>
Towers	<u>3</u>	<u>2</u>
Radar Service	<u>1</u>	<u>4</u>
Runway Ends	<u>16</u>	<u>      </u>
ILSs	<u>3</u>	<u>13</u>
Approach Lights	<u>4</u>	<u>12</u>
VASI	<u>1</u>	<u>15</u>
REIL	<u>2</u>	<u>10</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>4</u>	=	\$ <u>6.4</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>13</u>	=	\$ <u>3.2</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>12</u>	=	\$ <u>2.4</u> Million
VASI	\$ 21,500	x	<u>15</u>	=	\$ <u>.3</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>10</u>	=	\$ <u>.1</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>13.2</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF LOUISIANA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>8</u>	<u>          </u>
Towers	<u>6</u>	<u>2</u>
Radar Service	<u>2</u>	<u>6</u>
Runway Ends	<u>36</u>	<u>          </u>
ILSs	<u>7</u>	<u>29</u>
Approach Lights	<u>6</u>	<u>30</u>
VASI	<u>0</u>	<u>36</u>
REIL	<u>3</u>	<u>27</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>6</u>	=	\$ <u>9.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>29</u>	=	\$ <u>7.1</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>30</u>	=	\$ <u>6.0</u> Million
VASI	\$ 21,500	x	<u>36</u>	=	\$ <u>.8</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>27</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>24.6</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



## STATE OF MAINE

## AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>4</u>	<u>      </u>
Towers	<u>2</u>	<u>2</u>
Radar Service	<u>1</u>	<u>3</u>
Runway Ends	<u>12</u>	<u>      </u>
ILSs	<u>2</u>	<u>10</u>
Approach Lights	<u>3</u>	<u>9</u>
VASI	<u>1</u>	<u>11</u>
REIL	<u>3</u>	<u>6</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>3</u>	=	\$ <u>4.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>10</u>	=	\$ <u>2.4</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>9</u>	=	\$ <u>1.8</u> Million
VASI	\$ 21,500	x	<u>11</u>	=	\$ <u>.2</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>6</u>	=	\$ <u>.1</u> Million

Approximate total cost of desired equipment.  
installation = \$ 10.1 Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF MARYLAND  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>1</u>	<u>          </u>
Towers	<u>1</u>	<u>0</u>
Radar Service	<u>1</u>	<u>0</u>
Runway Ends	<u>6</u>	<u>          </u>
ILSs	<u>2</u>	<u>4</u>
Approach Lights	<u>2</u>	<u>4</u>
VASI	<u>1</u>	<u>5</u>
REIL	<u>1</u>	<u>3</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>0</u>	=	\$ <u>0</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>0</u>	=	\$ <u>0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>4</u>	=	\$ <u>1.0</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>4</u>	=	\$ <u>.8</u> Million
VASI	\$ 21,500	x	<u>5</u>	=	\$ <u>.1</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>3</u>	=	\$ <u>.03</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>1.93</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF MASSACHUSETTS  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>5</u>	<u>          </u>
Towers	<u>4</u>	<u>1</u>
Radar Service	<u>3</u>	<u>2</u>
Runway Ends	<u>22</u>	<u>          </u>
ILSs	<u>5</u>	<u>17</u>
Approach Lights	<u>7</u>	<u>15</u>
VASI	<u>1</u>	<u>21</u>
REIL	<u>0</u>	<u>15</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>1</u>	=	\$ <u>.4</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>2</u>	=	\$ <u>3.2</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>17</u>	=	\$ <u>4.1</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>15</u>	=	\$ <u>3.0</u> Million
VASI	\$ 21,500	x	<u>21</u>	=	\$ <u>.5</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>15</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>11.4</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1931 by FAA, March 1971.



STATE OF MICHIGAN

## AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>22</u>	<u>          </u>
Towers	<u>10</u>	<u>12</u>
Radar Service	<u>1</u>	<u>21</u>
Runway Ends	<u>76</u>	<u>          </u>
ILSs	<u>11</u>	<u>65</u>
Approach Lights	<u>13</u>	<u>63</u>
VASI	<u>0</u>	<u>76</u>
REIL	<u>29</u>	<u>34</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>12</u>	=	\$ <u>5.0</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>21</u>	=	\$ <u>33.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>65</u>	=	\$ <u>15.8</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>63</u>	=	\$ <u>12.6</u> Million
VASI	\$ 21,500	x	<u>76</u>	=	\$ <u>1.6</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>34</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>68.9</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF MINNESOTA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>11</u>	<u>          </u>
Towers	<u>3</u>	<u>8</u>
Radar Service	<u>3</u>	<u>8</u>
Runway Ends	<u>36</u>	<u>          </u>
ILSs	<u>6</u>	<u>30</u>
Approach Lights	<u>6</u>	<u>30</u>
VASI	<u>3</u>	<u>33</u>
REIL	<u>19</u>	<u>11</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>8</u>	=	\$ <u>3.3</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>8</u>	=	\$ <u>12.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>30</u>	=	\$ <u>7.3</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>30</u>	=	\$ <u>6.0</u> Million
VASI	\$ 21,500	x	<u>33</u>	=	\$ <u>.7</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>11</u>	=	\$ <u>.1</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>30.2</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 < Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF MISSISSIPPI  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>12</u>	<u>          </u>
Towers	<u>3</u>	<u>9</u>
Radar Service	<u>2</u>	<u>10</u>
Runway Ends	<u>52</u>	<u>          </u>
ILSs	<u>3</u>	<u>49</u>
Approach Lights	<u>5</u>	<u>47</u>
VASI	<u>0</u>	<u>52</u>
REIL	<u>1</u>	<u>46</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>9</u>	=	\$ <u>3.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>10</u>	=	\$ <u>16.0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>49</u>	=	\$ <u>11.9</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>47</u>	=	\$ <u>9.4</u> Million
VASI	\$ 21,500	x	<u>52</u>	=	\$ <u>1.1</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>46</u>	=	\$ <u>.5</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>42.7</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF MISSOURI  
 AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>8</u>	<u>          </u>
Towers	<u>4</u>	<u>4</u>
Radar Service	<u>3</u>	<u>5</u>
Runway Ends	<u>34</u>	<u>          </u>
ILSs	<u>7</u>	<u>27</u>
Approach Lights	<u>7</u>	<u>27</u>
VASI	<u>0</u>	<u>34</u>
REIL	<u>0</u>	<u>27</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>4</u>	=	\$ <u>1.7</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>5</u>	=	\$ <u>8.0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>27</u>	=	\$ <u>6.6</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>27</u>	=	\$ <u>5.4</u> Million
VASI	\$ 21,500	x	<u>34</u>	=	\$ <u>.7</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>27</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>22.7</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF MONTANA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>11</u>	<u>      </u>
Towers	<u>4</u>	<u>7</u>
Radar Service	<u>1</u>	<u>10</u>
Runway Ends	<u>52</u>	<u>      </u>
ILSs	<u>2</u>	<u>50</u>
Approach Lights	<u>3</u>	<u>49</u>
VASI	<u>2</u>	<u>50</u>
REIL	<u>4</u>	<u>45</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>7</u>	=	\$ <u>2.9</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>10</u>	=	\$ <u>16.0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>50</u>	=	\$ <u>12.1</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>49</u>	=	\$ <u>9.8</u> Million
VASI	\$ 21,500	x	<u>50</u>	=	\$ <u>1.1</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>45</u>	=	\$ <u>.5</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>42.4</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF NEBRASKA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>12</u>	<u>          </u>
Towers	<u>2</u>	<u>10</u>
Radar Service	<u>1</u>	<u>11</u>
Runway Ends	<u>58</u>	<u>          </u>
ILSs	<u>2</u>	<u>56</u>
Approach Lights	<u>4</u>	<u>54</u>
VASI	<u>0</u>	<u>58</u>
REIL	<u>8</u>	<u>46</u>

APPROXIMATE COST OF FACILITIES NEEDED \*6

Towers *1	\$417,000	x	<u>10</u>	=	\$ <u>4.2</u> Million
Radar Services *2	\$1.6 Million	x	<u>11</u>	=	\$ <u>17.6</u> Million
ILSs *3	\$243,000	x	<u>56</u>	=	\$ <u>13.6</u> Million
Approach Lights *4	\$200,000	x	<u>54</u>	=	\$ <u>10.8</u> Million
VASI	\$ 21,500	x	<u>58</u>	=	\$ <u>1.2</u> Million
REIL *5	\$ 10,000	x	<u>46</u>	=	\$ <u>.5</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>47.9</u></u> Million

- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF NEVADA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>4</u>	<u>          </u>
Towers	<u>2</u>	<u>2</u>
Radar Service	<u>2</u>	<u>2</u>
Runway Ends	<u>18</u>	<u>          </u>
ILSs	<u>2</u>	<u>16</u>
Approach Lights	<u>2</u>	<u>16</u>
VASI	<u>0</u>	<u>18</u>
REIL	<u>0</u>	<u>16</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>2</u>	=	\$ <u>3.2</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>16</u>	=	\$ <u>3.9</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>16</u>	=	\$ <u>3.2</u> Million
VASI	\$ 21,500	x	<u>18</u>	=	\$ <u>.4</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>16</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>11.7</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF NEW HAMPSHIRE  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>3</u>	<u>      </u>
Towers	<u>1</u>	<u>2</u>
Radar Service	<u>0</u>	<u>3</u>
Runway Ends	<u>10</u>	<u>      </u>
ILSs	<u>2</u>	<u>8</u>
Approach Lights	<u>1</u>	<u>9</u>
VASI	<u>2</u>	<u>8</u>
REIL	<u>3</u>	<u>6</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>3</u>	=	\$ <u>4.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>8</u>	=	\$ <u>1.9</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>9</u>	=	\$ <u>1.8</u> Million
VASI	\$ 21,500	x	<u>8</u>	=	\$ <u>.2</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>6</u>	=	\$ <u>.1</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>9.6</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF NEW JERSEY  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>5</u>	<u>          </u>
Towers	<u>4</u>	<u>1</u>
Radar Service	<u>4</u>	<u>1</u>
Runway Ends	<u>20</u>	<u>          </u>
ILSs	<u>5</u>	<u>15</u>
Approach Lights	<u>3</u>	<u>17</u>
VASI	<u>2</u>	<u>18</u>
REIL	<u>2</u>	<u>15</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>1</u>	=	\$ <u>.4</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>1</u>	=	\$ <u>1.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>15</u>	=	\$ <u>3.6</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>17</u>	=	\$ <u>3.4</u> Million
VASI	\$ 21,500	x	<u>18</u>	=	\$ <u>.4</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>15</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>9.6</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF NEW MEXICO  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>5</u>	<u>4</u>
Radar Service	<u>1</u>	<u>8</u>
Runway Ends	<u>44</u>	<u>          </u>
ILSs	<u>2</u>	<u>42</u>
Approach Lights	<u>2</u>	<u>42</u>
VASI	<u>1</u>	<u>43</u>
REIL	<u>0</u>	<u>42</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>4</u>	=	\$ <u>1.7</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>8</u>	=	\$ <u>12.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>42</u>	=	\$ <u>10.2</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>42</u>	=	\$ <u>8.4</u> Million
VASI	\$ 21,500	x	<u>43</u>	=	\$ <u>.9</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>42</u>	=	\$ <u>.4</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>34.4</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF NEW YORK  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>17</u>	<u>        </u>
Towers	<u>11</u>	<u>6</u>
Radar Service	<u>11</u>	<u>6</u>
Runway Ends	<u>84</u>	<u>        </u>
ILSs	<u>19</u>	<u>65</u>
Approach Lights	<u>15</u>	<u>69</u>
VASI	<u>7</u>	<u>77</u>
REIL	<u>11</u>	<u>58</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>6</u>	=	\$ <u>2.5</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>6</u>	=	\$ <u>9.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>65</u>	=	\$ <u>15.8</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>69</u>	=	\$ <u>13.8</u> Million
VASI	\$ 21,500	x	<u>77</u>	=	\$ <u>1.7</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>58</u>	=	\$ <u>.6</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>44.0</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF NORTH CAROLINA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>13</u>	<u>          </u>
Towers	<u>8</u>	<u>5</u>
Radar Service	<u>5</u>	<u>8</u>
Runway Ends	<u>44</u>	<u>          </u>
ILSs	<u>7</u>	<u>37</u>
Approach Lights	<u>7</u>	<u>37</u>
VASI	<u>3</u>	<u>41</u>
REIL	<u>4</u>	<u>33</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>5</u>	=	\$ <u>2.1</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>8</u>	=	\$ <u>12.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>37</u>	=	\$ <u>9.0</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>37</u>	=	\$ <u>7.4</u> Million
VASI	\$ 21,500	x	<u>41</u>	=	\$ <u>.9</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>33</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>32.5</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF NORTH DAKOTA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>6</u>	<u>        </u>
Towers	<u>3</u>	<u>3</u>
Radar Service	<u>2</u>	<u>4</u>
Runway Ends	<u>24</u>	<u>        </u>
ILSs	<u>2</u>	<u>22</u>
Approach Lights	<u>2</u>	<u>22</u>
VASI	<u>0</u>	<u>24</u>
REIL	<u>2</u>	<u>20</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>3</u>	=	\$ <u>1.3</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>4</u>	=	\$ <u>6.4</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>22</u>	=	\$ <u>5.3</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>22</u>	=	\$ <u>4.4</u> Million
VASI	\$ 21,500	x	<u>24</u>	=	\$ <u>.5</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>20</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>18.1</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF OHIO  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>7</u>	<u>2</u>
Radar Service	<u>7</u>	<u>2</u>
Runway Ends	<u>48</u>	<u>          </u>
ILSs	<u>12</u>	<u>36</u>
Approach Lights	<u>9</u>	<u>39</u>
VASI	<u>3</u>	<u>45</u>
REIL	<u>9</u>	<u>30</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>2</u>	=	\$ <u>3.2</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>36</u>	=	\$ <u>8.7</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>39</u>	=	\$ <u>7.8</u> Million
VASI	\$ 21,500	x	<u>45</u>	=	\$ <u>1.0</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>30</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>21.8</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF OKLAHOMA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>3</u>	<u>6</u>
Radar Service	<u>4</u>	<u>5</u>
Runway Ends	<u>36</u>	<u>          </u>
ILSs	<u>3</u>	<u>33</u>
Approach Lights	<u>4</u>	<u>32</u>
VASI	<u>1</u>	<u>35</u>
REIL	<u>2</u>	<u>30</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>6</u>	=	\$ <u>2.5</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>5</u>	=	\$ <u>8.0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>33</u>	=	\$ <u>8.0</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>32</u>	=	\$ <u>6.4</u> Million
VASI	\$ 21,500	x	<u>35</u>	=	\$ <u>.8</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>30</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>26.0</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000..
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF OREGON  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>12</u>	<u>      </u>
Towers	<u>5</u>	<u>7</u>
Radar Service	<u>1</u>	<u>11</u>
Runway Ends	<u>54</u>	<u>      </u>
ILSs	<u>7</u>	<u>47</u>
Approach Lights	<u>7</u>	<u>47</u>
VASI	<u>0</u>	<u>54</u>
REIL	<u>2</u>	<u>45</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>7</u>	=	\$ <u>2.9</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>11</u>	=	\$ <u>17.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>47</u>	=	\$ <u>11.4</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>47</u>	=	\$ <u>9.4</u> Million
VASI	\$ 21,500	x	<u>54</u>	=	\$ <u>1.2</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>45</u>	=	\$ <u>.5</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>43.0</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF PENNSYLVANIA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>11</u>	<u>          </u>
Towers	<u>9</u>	<u>2</u>
Radar Service	<u>5</u>	<u>6</u>
Runway Ends	<u>44</u>	<u>          </u>
ILSs	<u>11</u>	<u>33</u>
Approach Lights	<u>10</u>	<u>34</u>
VASI	<u>4</u>	<u>40</u>
REIL	<u>6</u>	<u>28</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>2</u>	=	\$ <u>.8</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>6</u>	=	\$ <u>9.6</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>33</u>	=	\$ <u>8.0</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>34</u>	=	\$ <u>6.8</u> Million
VASI	\$ 21,500	x	<u>40</u>	=	\$ <u>.9</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>28</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>26.4</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF PUERTO RICO  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>1</u>	<u>          </u>
Towers	<u>1</u>	<u>0</u>
Radar Service	<u>1</u>	<u>0</u>
Runway Ends	<u>2</u>	<u>          </u>
ILSs	<u>1</u>	<u>1</u>
Approach Lights	<u>1</u>	<u>1</u>
VASI	<u>0</u>	<u>2</u>
REIL	<u>0</u>	<u>1</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>0</u>	=	\$ <u>0</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>0</u>	=	\$ <u>0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>1</u>	=	\$ <u>.2</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>1</u>	=	\$ <u>.2</u> Million
VASI	\$ 21,500	x	<u>2</u>	=	\$ <u>.04</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>1</u>	=	\$ <u>.01</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>0.45</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF RHODE ISLAND  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>1</u>	<u>          </u>
Towers	<u>1</u>	<u>0</u>
Radar Service	<u>1</u>	<u>0</u>
Runway Ends	<u>6</u>	<u>          </u>
ILSs	<u>1</u>	<u>5</u>
Approach Lights	<u>1</u>	<u>5</u>
VASI	<u>1</u>	<u>5</u>
REIL	<u>3</u>	<u>2</u>

APPROXIMATE COST OF FACILITIES NEEDED \*6

Towers *1	\$417,000	x	<u>0</u>	=	\$ <u>0</u> Million
Radar Services *2	\$1.6 Million	x	<u>0</u>	=	\$ <u>0</u> Million
ILSs *3	\$243,000	x	<u>5</u>	=	\$ <u>1.2</u> Million
Approach Lights *4	\$200,000	x	<u>5</u>	=	\$ <u>1.0</u> Million
VASI	\$ 21,500	x	<u>5</u>	=	\$ <u>.1</u> Million
REIL *5	\$ 10,000	x	<u>2</u>	=	\$ <u>.02</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>2.3</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF SOUTH CAROLINA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>7</u>	<u>          </u>
Towers	<u>4</u>	<u>3</u>
Radar Service	<u>3</u>	<u>4</u>
Runway Ends	<u>28</u>	<u>          </u>
ILSs	<u>4</u>	<u>24</u>
Approach Lights	<u>3</u>	<u>25</u>
VASI	<u>3</u>	<u>25</u>
REIL	<u>0</u>	<u>25</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>3</u>	=	\$ <u>1.3</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>4</u>	=	\$ <u>6.4</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>24</u>	=	\$ <u>5.8</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>25</u>	=	\$ <u>5.0</u> Million
VASI	\$ 21,500	x	<u>25</u>	=	\$ <u>.5</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>25</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>19.3</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF SOUTH DAKOTA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>2</u>	<u>7</u>
Radar Service	<u>1</u>	<u>8</u>
Runway Ends	<u>26</u>	<u>          </u>
ILSs	<u>3</u>	<u>23</u>
Approach Lights	<u>2</u>	<u>24</u>
VASI	<u>0</u>	<u>26</u>
REIL	<u>9</u>	<u>15</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>7</u>	=	\$ <u>2.9</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>8</u>	=	\$ <u>12.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>23</u>	=	\$ <u>5.6</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>24</u>	=	\$ <u>4.8</u> Million
VASI	\$ 21,500	x	<u>26</u>	=	\$ <u>.6</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>15</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>26.9</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF TENNESSEE  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>5</u>	<u>4</u>
Radar Service	<u>5</u>	<u>4</u>
Runway Ends	<u>34</u>	<u>          </u>
ILSs	<u>6</u>	<u>28</u>
Approach Lights	<u>8</u>	<u>26</u>
VASI	<u>3</u>	<u>31</u>
REIL	<u>5</u>	<u>21</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>4</u>	=	\$ <u>1.7</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>4</u>	=	\$ <u>6.4</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>28</u>	=	\$ <u>6.8</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>26</u>	=	\$ <u>5.2</u> Million
VASI	\$ 21,500	x	<u>31</u>	=	\$ <u>.7</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>21</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>21.0</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF TEXAS  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>29</u>	<u>          </u>
Towers	<u>20</u>	<u>9</u>
Radar Service	<u>11</u>	<u>18</u>
Runway Ends	<u>148</u>	<u>          </u>
ILSs	<u>18</u>	<u>130</u>
Approach Lights	<u>19</u>	<u>129</u>
VASI	<u>7</u>	<u>141</u>
REIL	<u>6</u>	<u>123</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>9</u>	=	\$ <u>3.7</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>18</u>	=	\$ <u>28.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>130</u>	=	\$ <u>31.6</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>129</u>	=	\$ <u>25.8</u> Million
VASI	\$ 21,500	x	<u>141</u>	=	\$ <u>3.0</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>123</u>	=	\$ <u>1.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>94.2</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF UTAH  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>4</u>	<u>      </u>
Towers	<u>1</u>	<u>3</u>
Radar Service	<u>1</u>	<u>3</u>
Runway Ends	<u>14</u>	<u>      </u>
ILSs	<u>1</u>	<u>13</u>
Approach Lights	<u>1</u>	<u>13</u>
VASI	<u>1</u>	<u>13</u>
REIL	<u>0</u>	<u>13</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>3</u>	=	\$ <u>1.3</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>3</u>	=	\$ <u>4.8</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>13</u>	=	\$ <u>3.2</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>13</u>	=	\$ <u>2.6</u> Million
VASI	\$ 21,500	x	<u>13</u>	=	\$ <u>.3</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>13</u>	=	\$ <u>.1</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>12.3</u></u> Million

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- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that same less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF VERMONT  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>1</u>	<u>          </u>
Towers	<u>1</u>	<u>0</u>
Radar Service	<u>1</u>	<u>0</u>
Runway Ends	<u>2</u>	<u>          </u>
ILSs	<u>1</u>	<u>1</u>
Approach Lights	<u>1</u>	<u>1</u>
VASI	<u>0</u>	<u>2</u>
REIL	<u>1</u>	<u>0</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>0</u>	=	\$ <u>0</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>0</u>	=	\$ <u>0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>1</u>	=	\$ <u>.24</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>1</u>	=	\$ <u>.2</u> Million
VASI	\$ 21,500	x	<u>2</u>	=	\$ <u>.04</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>0</u>	=	\$ <u>.0</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>.48</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF VIRGINIA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>12</u>	<u>          </u>
Towers	<u>7</u>	<u>5</u>
Radar Service	<u>7</u>	<u>5</u>
Runway Ends	<u>48</u>	<u>          </u>
ILSs	<u>9</u>	<u>39</u>
Approach Lights	<u>11</u>	<u>37</u>
VASI	<u>6</u>	<u>42</u>
REIL	<u>14</u>	<u>23</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>5</u>	=	\$ <u>2.1</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>5</u>	=	\$ <u>8.0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>39</u>	=	\$ <u>9.5</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>37</u>	=	\$ <u>7.4</u> Million
VASI	\$ 21,500	x	<u>42</u>	=	\$ <u>.9</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>23</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>28.1</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.  
 \*2 More than one airport may use the same radar facilities.  
 \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.  
 \*4 This approach light system installation will be satisfactory for CAT II operations. It is probable that a less expensive installation, \$100,000 or under, can be used for some runways.  
 \*5 These required numbers can be reduced by the number of approach light systems installed.  
 \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF VIRGIN ISLANDS  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>2</u>	<u>          </u>
Towers	<u>2</u>	<u>0</u>
Radar Service	<u>0</u>	<u>2</u>
Runway Ends	<u>4</u>	<u>          </u>
ILSs	<u>0</u>	<u>4</u>
Approach Lights	<u>0</u>	<u>4</u>
VASI	<u>2</u>	<u>2</u>
REIL	<u>1</u>	<u>3</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>0</u>	=	\$ <u>.0</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>2</u>	=	\$ <u>3.2</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>4</u>	=	\$ <u>1.0</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>4</u>	=	\$ <u>.8</u> Million
VASI	\$ 21,500	x	<u>2</u>	=	\$ <u>.04</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>3</u>	=	\$ <u>.03</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>5.07</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF WASHINGTON  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>11</u>	<u>        </u>
Towers	<u>5</u>	<u>6</u>
Radar Service	<u>4</u>	<u>7</u>
Runway Ends	<u>48</u>	<u>        </u>
ILSs	<u>4</u>	<u>44</u>
Approach Lights	<u>8</u>	<u>40</u>
VASI	<u>1</u>	<u>47</u>
REIL	<u>1</u>	<u>39</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>6</u>	=	\$ <u>2.5</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>7</u>	=	\$ <u>11.2</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>44</u>	=	\$ <u>10.7</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>40</u>	=	\$ <u>8.0</u> Million
VASI	\$ 21,500	x	<u>47</u>	=	\$ <u>1.0</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>39</u>	=	\$ <u>.4</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>33.8</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.



STATE OF WEST VIRGINIA  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>7</u>	<u>      </u>
Towers	<u>3</u>	<u>4</u>
Radar Service	<u>2</u>	<u>5</u>
Runway Ends	<u>18</u>	<u>      </u>
ILSs	<u>2</u>	<u>16</u>
Approach Lights	<u>2</u>	<u>16</u>
VASI	<u>2</u>	<u>16</u>
REIL	<u>1</u>	<u>15</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>4</u>	=	\$ <u>1.7</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>5</u>	=	\$ <u>8.0</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>16</u>	=	\$ <u>3.9</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>16</u>	=	\$ <u>3.2</u> Million
VASI	\$ 21,500	x	<u>16</u>	=	\$ <u>.3</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>15</u>	=	\$ <u>.2</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>17.3</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF WISCONSIN  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>6</u>	<u>3</u>
Radar Service	<u>2</u>	<u>7</u>
Runway Ends	<u>46</u>	<u>          </u>
ILSs	<u>4</u>	<u>42</u>
Approach Lights	<u>4</u>	<u>42</u>
VASI	<u>1</u>	<u>45</u>
REIL	<u>9</u>	<u>33</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>3</u>	=	\$ <u>1.3</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>7</u>	=	\$ <u>11.2</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>42</u>	=	\$ <u>10.2</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>42</u>	=	\$ <u>8.4</u> Million
VASI	\$ 21,500	x	<u>45</u>	=	\$ <u>.9</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>33</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>32.3</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

STATE OF WYOMING  
AIRPORT FACILITIES INVENTORY

	NUMBER	NEEDED
Scheduled Airline Airports	<u>9</u>	<u>          </u>
Towers	<u>2</u>	<u>7</u>
Radar Service	<u>0</u>	<u>9</u>
Runway Ends	<u>34</u>	<u>          </u>
ILSs	<u>3</u>	<u>31</u>
Approach Lights	<u>3</u>	<u>31</u>
VASI	<u>0</u>	<u>34</u>
REIL	<u>1</u>	<u>30</u>

APPROXIMATE COST OF FACILITIES NEEDED <sup>\*6</sup>

Towers <sup>*1</sup>	\$417,000	x	<u>7</u>	=	\$ <u>2.9</u> Million
Radar Services <sup>*2</sup>	\$1.6 Million	x	<u>9</u>	=	\$ <u>14.4</u> Million
ILSs <sup>*3</sup>	\$243,000	x	<u>31</u>	=	\$ <u>7.5</u> Million
Approach Lights <sup>*4</sup>	\$200,000	x	<u>31</u>	=	\$ <u>6.2</u> Million
VASI	\$ 21,500	x	<u>34</u>	=	\$ <u>.7</u> Million
REIL <sup>*5</sup>	\$ 10,000	x	<u>30</u>	=	\$ <u>.3</u> Million
Approximate total cost of desired equipment installation				=	\$ <u><u>32.0</u></u> Million

- 
- \*1 Mobile towers at low density locations should cost less than \$100,000.
- \*2 More than one airport may use the same radar facilities.
- \*3 Manufacturers tell us that newer ILSs should cost only \$100,000 installed.
- \*4 This approach light system installation will be satisfactory for CAT II operations. It is possible that some less expensive installation, \$100,000 or under, can be used for some runways.
- \*5 These required numbers can be reduced by the number of approach light systems installed.
- \*6 Cost estimates based on National Aviation System Plan (NASP) 1972-1981 by FAA, March 1971.

## DETAILED PRESENT FACILITY STATUS BY STATE AND AIRPORT

## ATTACHMENT H

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>ALABAMA</u>										
Annisston	No	No	2	0	1	0	0	0	4	N/A
Birmingham	Yes	Yes	4	1	0	1	1	0	132	418
<del>Decatur</del>	No	No	2	0	0	0	0	0	N/A	N/A
Dothan	Yes	Yes	4	0	0	0	0	0	26	228
Gadsden	No	No	4	1	0	0	0	0	3	N/A
Huntsville	Yes	Yes	4	1	0	1	0	0	55	218
Mobile	Yes	Yes	6	1	0	1	0	0	47	206
Montgomery	Yes	Yes	6	1	0	1	0	0	38	244
Muscle Shoals	No	Yes	4	0	1	0	0	0	0	N/A
Tuscaloosa	No	No	4	0	0	0	0	0	5+	N/A
	<u>5</u>	<u>6</u>	<u>38</u>	<u>5</u>	<u>2</u>	<u>4</u>	<u>1</u>	<u>0</u>		
<u>ALASKA</u>										
Adak	Yes	Yes	4	0	0	2	0	0	1	N/A
Amchitka	Yes	No	2	0	0	1	0	0	-1	N/A
Anchorage	Yes	Yes	6	2	0	2	3	0	137	281
Aniak	No	No	2	0	0	0	0	0	2	N/A
Annette Island	Yes	No	2	1	0	1	0	0	24	44
<del>Attu</del>	No	No	2	0	0	0	0	0	-1	N/A
Barrow	No	No	2	0	0	1	2	0	1+	N/A
Barter Island	No	No	2*	0	0	0	0	2	-1	N/A
Bethel	No	No	2*	0	0	1	1	0	5	N/A
Bettles	No	No	2*	0	0	0	0	0	-1	N/A
Big Mountain	No	No	2*	0	0	0	0	0	-1	N/A
<del>Cape Lisburne</del>	No	No	2*	0	0	0	0	0	-1	N/A
<del>Cape Newenham</del>	No	No	2*	0	0	0	0	0	1	N/A
Cold Bay	No	No	4	1	0	1	1	1	2+	N/A
Cordova	No	No	2	0	0	1	1	1	5+	N/A
Dillingham	No	No	2*	0	0	0	0	0	5+	N/A
Fairbanks	Yes	No	2	1	0	1	1	0	86	205
<del>Farwell</del>	No	No	4*	0	0	0	0	0	-1	N/A
East Yukon	No	No	2*	0	0	1	0	0	2+	N/A



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>ALASKA (Cont.)</u>										
Galena	Yes	No	2	0	0	1	2	0	3+	N/A
Gulkana	No	No	2	0	0	1	0	0		
Gustavus	No	No	4	0	0	0	0	0		
Haines	No	No	2*	0	0	0	0	0	4+	N/A
Homer	No	No	2	0	0	0	1	0	4+	N/A
Iliamna	No	No	2*	0	0	0	0	0	-1	N/A
Juneau	Yes	No	2	0	1	1	1	0	31	60
Kenai	No	No	2	0	0	1	1	0	6+	N/A
King Salmon	Yes	Yes	4	1	0	1	2	0	5+	N/A
Kodiak	No	No	6	0	0	0	1	0	7+	N/A
Kotzebue	No	No	2	0	0	0	1	0	4+	N/A
McGrath	No	No	2	0	0	0	0	0	2+	N/A
Middleton Island	No	No	2*	0	0	0	0	0		
Moses Point	No	No	2	0	0	0	0	0	-1	N/A
Nome	No	No	4	0	0	1	1	1	5+	N/A
Northway	No	No	2	0	0	0	0	0	N/A	N/A
Port Heiden	No	No	4	0	0	0	0	0	1	N/A
Shemya	Yes	Yes	4	0	0	2	0	0	-1	N/A
Sitka	No	No	2	0	1	0	2	1	5	N/A
St. Paul	No	No	2	0	0	0	0	0	1	N/A
Tanana	No	No	2*	0	0	0	0	0	1+	N/A
Uniat (?)	No	No	2	0	0	0	0	0	1	N/A
Unalakleet	No	No	2*	0	0	0	1	0	1+	N/A
Utopia	No	No	2*	0	0	0	0	0	1	N/A
Yakutat	No	No	4	0	0	2	0	0	2+	N/A
	9	4	72	6	2	20	22	6		
<u>ARIZONA</u>										
Flagstaff	No	No	2	0	0	0	0	0	4	N/A
Grand Canyon	No	No	2	0	0	0	0	0	5+	N/A
Kingman	No	No	6	0	0	0	0	0	3+	N/A
Page	No	No	2	0	0	0	0	0		

(\* = gravel runway)

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>ARIZONA (Cont.)</u>										
Phoenix	Yes	Yes	4	0	0	1	1	2	237	758
<del>Phoenix</del>	No	No	4	0	0	0	0	0	4+	N/A
Tucson	Yes	Yes	6	0	0	0	1	0	101	310
Winslow	No	No	4	0	0	0	0	0	4+	N/A
Yuma	Yes	No	8	0	0	0	0	0	9+	N/A
	3	2	28	0	0	1	2	2		
<u>ARKANSAS</u>										
El Dorado	No	No	6	0	0	0	0	0	5+	N/A
Foyetteville	No	No	2	0	0	0	0	0	10+	N/A
Fort Smith	Yes	No	4	1	0	1	0	0	40	163
Harrison	No	No	2	0	0	0	0	0	4	N/A
Hot Springs	Yes	No	4	1	0	1	0	0	23	113
Jonesboro	No	Na	6	0	0	0	0	0	3+	N/A
Little Rock	Yes	Yes	6	1	0	1	0	0	80	334
Pine Bluff	No	No	2	0	0	0	0	2	4	N/A
Texarkana	Yes	No	4	1	0	1	0	0	7	44
	4	1	36	4	0	4	0	2		
<u>CALIFORNIA</u>										
Apple Valley/ San Bernadino	Na	No	2	0	0	0	0	0	7+	N/A
Arcata	No	No	4	1	0	1	1	0	24	306
Bakersfield	Yes	No	4	1	0	1	0	1	3+	N/A
Blythe	No	No	6	0	0	0	0	0	86	497
Burbank	Yes	Yes	4	1	0	1	0	0	6+	N/A
Chico	No	No	2	0	0	0	0	1	3+	N/A
Crescent City	No	No	4	0	0	0	0	0	48	340
Fresno	Yes	Yes	4	1	0	1	0	0	N/A	N/A
Imperial	No	No	2	0	0	0	0	0	2	N/A
Invokern	No	No	2	0	0	0	0	0	4+	N/A
Longcaster	No	No	2	0	0	0	0	0	28	797
Long Beach	Yes	Yes	10	1	0	1	0	0		

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>CALIFORNIA (Cont.)</u>										
Los Angeles	Yes	Yes	8	4	0	5	2	3	1201	1550
Marysville	No	No	4	0	0	0	0	0	2	N/A
Merced	No	No	2	0	0	0	0	0	1	N/A
Modesto	Yes	No	4	0	0	1	0	0	7	196
Monterey	Yes	No	4	1	0	1	0	0	36	257
Oakland	Yes	Yes	8	2	0	2	0	0	199	651
Ontario	Yes	Yes	4	1	0	1	0	0	70	320
Oxnard	Yes	No	2	0	0	0	0	1	3+	N/A
Palm Springs	Yes	No	2	0	0	0	0	0	36	142
Redding	No	No	4	0	0	1	0	0	5+	N/A
Riverside	Yes	Yes	2	0	0	0	0	1	23	204
Sacramento	Yes	Yes	6	1	0	1	0	0	96	195
Salinas	Yes	Yes	4	0	0	0	2	1	N/A	140
San Diego	Yes	Yes	4	1	0	1	0	1	208	460
San Francisco	Yes	Yes	8	2	0	2	1	1	844	1086
San Jose	Yes	Yes	4	1	0	1	0	0	135	645
San Luis Obispo	No	No	4	0	0	0	0	0	5+	N/A
Santa Ana	Yes	Yes	2	1	1	1	0	0	50	638
Santa Barbara	Yes	No	4	1	0	1	0	0	26	319
Santa Maria	No	No	4	0	0	1	0	0	5+	N/A
Santa Rosa	Yes	Yes	4	0	0	0	0	2	8	183
South Lake Tahoe	Yes	No	2	0	0	0	1	1	9	99
Stockton	Yes	No	2	1	0	1	0	0	15	179
Visalia	No	No	2	0	0	0	0	0	-1	N/A
	20	12	130	21	1	25	5	12		
<u>COLORADO</u>										
Alamosa	No	No	2	0	0	0	0	0	3+	N/A
Colorado Springs	Yes	Yes	6	1	0	1	2	0	51	374
Cortez	No	No	2	0	0	0	0	0	3+	N/A
Denver	Yes	Yes	6	2	0	2	2	1	472	864
Durango	No	No	2	0	0	0	0	0	6+	N/A
Grand Junction	Yes	No	4	1	0	0	0	2	28	117



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>COLORADO (Cont.)</u>										
Gunnison	No	No	2	0	0	0	0	0	2	N/A
Hayden	No	No	2	0	0	0	0	0	1+	N/A
Lamar	No	No	2	0	0	0	0	0	4	N/A
Montrose	No	No	2	0	0	0	0	0	23	144
Pueblo	Yes	No	8	2	0	1	0	0		
	4	2	38	6	0	4	4	3		
<u>CONNECTICUT</u>										
Bridgeport	Yes	No	6	0	0	0	0	4	20	253
Groton	No	No	6	0	0	0	0	1		
Hartford	No	No	4	0	0	0	0	0	7	134
New Haven	Yes	No	4	0	0	0	1	1	165	367
Windsor Locks	Yes	Yes	6	1	0	1	1	1		
	3	1	26	1	0	1	2	7		
<u>DELAWARE</u>										
Wilmington	Yes	Yes	8	1	0	1	0	0	22	215
<u>FLORIDA</u>										
Daytona Beach	Yes	No	2	1	0	1	0	0	35	331
Ft. Lauderdale	Yes	Yes	4	1	0	0	0	0	125	825
Ft. Myers	Yes	No	4	0	0	0	1	0	10	204
Gainesville	Yes	No	6	0	0	0	0	0	2	N/A
Jacksonville	Yes	Yes	4	1	0	1	0	0	134	249
Key West	Yes	Yes	2	0	0	0	0	0	9	66
Melbourne	Yes	Yes	4	0	0	0	0	0	28	234
Miami	Yes	Yes	8	2	0	2	3	0	714	971
Ocala	No	No	2	0	0	0	0	0	2	N/A
Orlando	Yes	Yes	4	1	0	1	0	0	0	380
Panama City	Yes	Yes	4	1	0	0	0	0	19	125
Pensacola	Yes	Yes	4	1	0	1	0	0	30	203
St. Petersburg	Yes	Yes	6	1	0	1	0	0	N/A	225



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	No. of Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>FLORIDA (Cont.)</u>										
Sarasota	Yes	Yes	4	0	0	0	1	0	23	222
Tallahassee	Yes	No	4	1	0	1	0	0	31	205
Tampa	Yes	Yes	6	2	0	0	0	0	227	398
Vero Beach	No	No	4	0	0	0	0	0	2	N/A
West Palm Beach	Yes	Yes	4	1	0	1	1	0	121	467
	16	12	76	13	0	9	6	0		
<u>GEORGIA</u>										
Albany	Yes	No	4	0	0	0	0	0	7+	N/A
Athens	No	No	4	0	0	0	0	0	3+	N/A
Atlanta	Yes	Yes	8	3	0	3	2	1	1035	1178
Augusta	Yes	No	4	1	0	1	0	0	63	164
Brunswick	No	No	6	0	0	0	0	0	3	N/A
Columbus	Yes	Yes	2	1	0	0	0	0	53	212
Macon	Yes	Yes	4	1	0	1	0	0	21	150
Moultrie	No	No	4	0	0	0	0	0	5+	N/A
<del>Rome</del>	No	No	6	0	0	0	0	0	1	N/A
Savannah	Yes	Yes	6	1	0	1	0	0	33	248
Valdosta	No	No	6	0	0	0	0	0	3+	N/A
Waycross	No	No	6	0	0	0	0	0	1	N/A
	6	4	54	7	0	6	2	1		
<u>HAWAII</u>										
Hilo	Yes	No	4	1	0	1	1	0	62	98
Honolulu	Yes	Yes	6	1	0	1	1	1	355	741
Kahului	Yes	No	4	1	0	0	0	0	110	170
Kailua	Yes	No	2	0	0	0	1	0	36	71
Kamuela	No	No	2	0	0	0	0	0	4+	N/A
Lanai	No	No	2	0	0	0	0	0	3+	N/A
Lihue	Yes	No	2	0	0	0	0	0	26+	N/A
	5	1	22	3	0	2	3	1		

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	No. of Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>IDAHO</u>										
Boise	Yes	No	4	1	0	1	0	0	57	242
Burley	No	No	4	0	0	0	0	0	24	N/A
Coeur D'Alene	Yes	No	6	0	0	0	0	0	17	82
Idaho Falls	Yes	No	4	0	0	0	0	1	9+	N/A
Lewiston	No	No	4	0	0	0	0	0	18	42
Pocatello	Yes	No	6	1	0	1	0	0		
Sun Valley/Hailey/Ketchum	No	No	2	0	0	0	0	0	5+	N/A
Twin Falls	No	No	2	0	0	0	0	0	8	N/A
	3	0	20	2	0	2	0	1		
<u>ILLINOIS</u>										
Alton	Yes	No	4	1	0	0	0	0	3	N/A
Bloomington	No	No	2	0	0	0	0	0	3+	218
Champaign	Yes	No	6	1	0	0	0	2	27	424
Midway	Yes	Yes	12	1	1	1	0	3	101	
O'Hare	Yes	Yes	12	5	2	7	3	2	1737	1836
Downville	No	No	4	0	0	0	0	1		92
Decatur	Yes	No	6	1	0	1	0	4	13	N/A
Galesburg	No	No	2	0	0	0	0	0	4+	N/A
Marion	Yes	No	2	0	0	0	0	2	7+	N/A
Mattoon	No	No	2	0	0	0	0	3	3+	N/A
Moline	Yes	Yes	6	1	0	1	0	2	65	224
Mt. Vernon	No	No	2	0	0	1	0	2	3+	N/A
Peoria	Yes	No	6	1	0	1	0	0	63	238
Quincy	No	No	6	1	0	0	0	0	6+	N/A
Rockford	Yes	No	6	1	0	1	0	2	12	273
Springfield	Yes	No	6	1	0	1	0	4	50	265
	9	3	76	13	3	14	3	26		
<u>INDIANA</u>										
Bloomington	No	No	2	0	0	0	0	1	4+	N/A
Columbus	No	No	4	0	0	0	0	0		

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>INDIANA (Cont.)</u>										
Evansville	Yes	No	4	1	0	1	0	0	41	187
Ft. Wayne	Yes	Yes	6	1	1	2	0	1	51	264
Indianapolis	Yes	Yes	6	2	0	3	1	1	249	501
Kokomo	No	No	4	0	0	0	0	0	1+	N/A
Lafayette	No	No	2	0	1	0	0	1	6+	N/A
Marion	No	No	2	0	0	0	0	0	1+	N/A
Muncie	Yes	No	4	0	0	0	0	0	11	129
Richmond	No	No	6	0	0	0	0	4	N/A	N/A
South Bend	Yes	No	8	1	0	1	0	1	61	225
Terre Haute	Yes	No	4	1	0	1	0	0	19	141
	<u>6</u>	<u>2</u>	<u>42</u>	<u>6</u>	<u>2</u>	<u>8</u>	<u>1</u>	<u>5</u>		
<u>IOWA</u>										
Burlington	No	No	4	0	0	0	0	0	7+	N/A
Cedar Rapids	Yes	No	4	1	0	1	0	1	53	156
Clinton	No	No	2	0	0	0	0	0	3+	N/A
Des Moines	Yes	Yes	4	1	0	2	0	1	97	344
Dubuque	No	No	4	0	0	0	0	1	9+	N/A
Fort Dodge	No	No	4	0	0	0	0	0	5+	N/A
Iowa City	No	No	4	0	0	0	0	0	2+	N/A
Mason City	No	No	4	0	0	0	0	1	6+	N/A
Ottumwa	No	No	4	0	0	0	0	0	4+	N/A
Sioux City	Yes	No	6	1	0	1	0	1	48	199
Waterloo	Yes	No	6	1	0	1	0	0	38	146
	<u>4</u>	<u>1</u>	<u>42</u>	<u>4</u>	<u>0</u>	<u>5</u>	<u>0</u>	<u>5</u>		
<u>KANSAS</u>										
Dodge City	No	No	4	0	0	0	0	0	N/A	N/A
Garden City	No	No	8	0	0	0	0	0	3+	N/A
Goodland	No	No	2	0	0	0	0	0	2+	N/A
Great Bend	No	No	6	0	0	0	0	0	2+	N/A
Hays	No	No	2	0	0	0	0	0	4	N/A
Hutchinson	Yes	No	4	1	0	1	0	0	14	136

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Inherent Flights Daily
<u>KANSAS (Cont.)</u>										
Liberol	No	No	6	0	0	0	0	2	5	N/A
Manhattan	No	No	2	0	0	0	0	0	9+	N/A
Parsons	No	No	6	0	0	0	0	0	N/A	N/A
Salino	Yes	No	4	1	0	1	0	0	16	101
Topeka	Yes	Yes	6	1	0	1	0	0	32	198
Wichita	Yes	Yes	6	1	0	1	0	0	113	508
	<u>3</u>	<u>2</u>	<u>42</u>	<u>3</u>	<u>0</u>	<u>3</u>	<u>0</u>	<u>2</u>		
<u>KENTUCKY</u>										
Bowling Green	No	No	2	0	0	0	0	0	1+	N/A
Frankfort	No	No	2	0	0	0	0	0		
Lexington	Yes	No	2	1	0	1	0	0	52	250
London	No	No	2	0	0	0	0	0	3+	N/A
Louisville	Yes	Yes	6	2	0	2	1	0	228	363
Owensboro	Yes	No	2	0	0	1	0	1	10	36
Paducah	No	No	4	0	0	0	0	1	12	N/A
	<u>3</u>	<u>1</u>	<u>16</u>	<u>3</u>	<u>0</u>	<u>4</u>	<u>1</u>	<u>2</u>		
<u>LOUISIANA</u>										
Alexandria	No	No	4	1	0	1	0	0	10	N/A
Baton Rouge	Yes	No	6	1	0	0	0	1	51	203
Fort Polk	No	No	2	0	0	0	0	0	7+	N/A
Lafayette	Yes	No	4	1	0	1	0	1	33	281
Lake Charles	Yes	No	4	1	0	1	0	0	30	160
Monroe	Yes	No	6	1	0	1	0	0	25	158
New Orleans	Yes	Yes	6	1	0	1	0	1	321	425
Shreveport	Yes	Yes	4	1	0	1	0	0	101	166
	<u>6</u>	<u>2</u>	<u>36</u>	<u>7</u>	<u>0</u>	<u>6</u>	<u>0</u>	<u>3</u>		
<u>MAINE</u>										
Auburn	No	No	2	0	0	0	0	1	4+	N/A
Augusta	No	No	2	0	0	0	0	1	2+	N/A
Bangor	Yes	No	2	1	0	2	0	1	28	119



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>MAINE (Cont.)</u>										
Bar Harbor	No	No	2	0	0	0	0	1	N/A	174
Portland	Yes	No	4	1	0	1	1	0	43	N/A
Presque Isle	No	Yes	4	0	0	0	0	1	1+	N/A
Rockland	No	No	4	0	0	0	0	0	1	N/A
	<u>2</u>	<u>1</u>	<u>12</u>	<u>2</u>	<u>0</u>	<u>3</u>	<u>1</u>	<u>3</u>		
<u>MARYLAND</u>										
Baltimore	Yes	Yes	6	2	0	2	1	1	359	622
Hagerstown	Yes	No	2	0	0	1	0	0	N/A	
Salisbury	No	No	6	0	0	0	0	0	1	N/A
	<u>1</u>	<u>1</u>	<u>6</u>	<u>2</u>	<u>0</u>	<u>2</u>	<u>1</u>	<u>1</u>		
<u>MASSACHUSETTS</u>										
Bedford	Yes	Yes	4	1	0	1	2	2	N/A	408
Boston	Yes	Yes	8	2	0	2	1	0	594	846
Hyannis	Yes	Yes	4	1	0	1	0	1	3	149
Martha's Vineyard	No	No	2	0	0	1	0	0	2+	N/A
Nantucket	Yes	Yes	4	1	0	1	0	0	3	N/A
New Bedford	Yes	Yes	4	1	0	1	0	0	6	119
Worcester	Yes	No	4	1	0	2	0	0	17	155
	<u>4</u>	<u>3</u>	<u>22</u>	<u>5</u>	<u>0</u>	<u>7</u>	<u>1</u>	<u>0</u>		
<u>MICHIGAN</u>										
Alpena	Yes	No	6	0	0	1	0	2	2+	N/A
Battle Creek	Yes	No	8	1	0	1	0	0	19	127
Benton Harbor	No	No	2	0	1	0	0	2	7+	N/A
Cadillac	No	No	2	0	0	0	0	0	N/A	840
Detroit (Metro)	Yes	Yes	8	3	0	3	0	3	604	206
Detroit (Willow Run)	Yes	Yes	10	1	0	1	0	1	N/A	N/A
Escanaba	No	No	2	0	0	0	0	2	6+	250
Flint	Yes	No	6	1	0	0	0	2	46	255
Grand Rapids	Yes	No	2	1	0	1	0	2	73	N/A
Hancock	No	No	4	0	0	0	0	2	3	N/A

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Weather Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>MICHIGAN (Cont.)</u>										
Iran Mountain	No	No	2	0	0	0	0	0	5+	N/A
Ironwood	No	No	2	0	0	0	0	1	3+	N/A
Jackson	Yes	Na	2	1	0	1	0	0	7	110
Kalamazoo	Yes	No	2	1	0	1	0	1	26	210
Lansing	Yes	No	4	1	0	1	0	1	54	273
Manistee	No	No	2	0	0	0	0	1	1+	N/A
Marquette	No	Na	2	0	0	0	0	2	0	3+
Menominee	No	No	2	0	0	0	0	1	6+	N/A
Muskegon	Yes	No	4	1	0	1	0	0	26	148
Pellston	No	No	4	0	0	0	0	3	5	N/A
<del>Pontiac</del>	<del>Yes</del>	<del>No</del>	<del>2</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>2</del>	<del>N/A</del>	<del>319</del>
Saginaw	Yes	No	4	1	0	1	0	2	45	165
Sault Ste. Marie	No	No	2	0	0	1	0	1	2	N/A
Traverse City	No	No	4	0	0	1	0	1	8+	N/A
	<u>10</u>	<u>1</u>	<u>76</u>	<u>11</u>	<u>1</u>	<u>13</u>	<u>0</u>	<u>29</u>		
<u>MINNESOTA</u>										
Bemidji	No	No	4	0	0	0	0	2	4+	N/A
Brainerd	No	No	4	0	0	0	0	2	4+	N/A
Duluth	Yes	Yes	6	2	0	2	2	0	38	148
Fairmont	No	No	2	0	0	0	0	2	4	N/A
Hibbing	No	Yes	2	0	0	0	0	2	7	N/A
International Falls	No	No	2	0	0	1	0	1	2+	N/A
<del>Mankato</del>	<del>No</del>	<del>No</del>	<del>2</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>1</del>	<del>N/A</del>
Minneapolis	Yes	Yes	6	3	0	2	1	3	399	650
Rochester	Yes	No	4	1	0	1	0	1	55	163
Thief River Falls	No	No	2	0	0	0	0	2	4	N/A
Winona	No	No	2	0	0	0	0	2	2+	N/A
Worthington	No	No	2	0	0	0	0	2	4	N/A
	<u>3</u>	<u>3</u>	<u>36</u>	<u>6</u>	<u>0</u>	<u>6</u>	<u>3</u>	<u>19</u>		
<u>MISSISSIPPI</u>										
Columbus	No	No	2	0	0	0	0	0	7	N/A

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Helicopter Flights Daily
<u>MISSISSIPPI (Cont.)</u>										
Greenville	No	No	6	0	0	1	0	0	5+	N/A
Greenwood	No	No	4	0	0	0	0	0	3+	N/A
Gulfport	Yes	No	6	1	0	2	0	0	25	199
Hattiesburg	No	No	4	0	0	0	0	0	3+	N/A
Jackson	Yes	Yes	4	1	0	0	0	0	89	183
Laurel	No	No	4	0	0	0	0	0	2+	N/A
Meridian	Yes	No	4	1	0	2	0	0	15	96
Natchez	No	No	6	0	0	0	0	1	4+	N/A
Oxford	No	No	2	0	0	0	0	0	3+	N/A
Pascagoula	No	Yes	6	0	0	0	0	0	3+	N/A
Picayune	No	No	2	0	0	0	0	0	N/A	N/A
Tupelo	No	No	4	0	0	0	0	0	5+	N/A
Vicksburg	No	No	2	0	0	0	0	0	1+	N/A
	3	2	52	3	0	5	0	1		
<u>MISSOURI</u>										
Cape Girardeau	No	No	4	0	0	0	0	0	4+	N/A
Columbia	No	No	2	0	0	0	0	0	8+	N/A
Jefferson City	No	No	2	0	0	0	0	1		
Joplin	No	No	6	1	0	0	0	0	10+	N/A
Kansas City (Mun.)	Yes	Yes	4	1	0	1	0	0	373	624
Kansas City Internat'l.	Yes	Yes	4	2	0	2	0	0	2	80
Kirkville	No	No	2	0	0	0	0	0	1+	N/A
St. Joseph	Yes	No	6	1	0	1	0	0	6	151
St. Louis	Yes	Yes	8	2	0	3	0	0	526	877
Springfield	Yes	No	4	1	0	1	0	0	36	165
	4	3	34	7	0	7	0	0		
<u>MONTANA</u>										
Billings	Yes	No	6	1	0	1	0	0	74	203
Bozeman	No	No	4	0	0	0	1	0	8	N/A
Butte	No	No	6	0	0	0	0	0	9	N/A
Glasgow	No	No	4	0	0	0	0	0	2+	N/A

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Junior Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>MONTANA (Cont.)</u>										
<del>Glendive</del>	No	No	2	0	0		0		11	N/A
Great Falls	Yes	Yes	6	1	0	1	0	0	50	159
Havre	No	No	2	0	0	0	0	0	2	N/A
Helena	Yes	No	4	0	0	0	1	2	21	67
Kalispell	No	No	6	0	0	0	0	0	2+	N/A
Lewistown	No	No	6	0	0	0	0	0	2	N/A
Miles City	No	No	4	0	0	0	0	1	2	N/A
Missoula	Yes	No	6	0	0	1	0	1	15	129
West Yellowstone	No	No	2	0	0	0	0	0	2	N/A
	4	1	52	2	0	3	2	4		
<u>NEBRASKA</u>										
Alliance	No	No	8	0	0	0	0	0	3+	N/A
Chadron	No	No	4	0	0	0	0	0	3+	N/A
Columbus	No	No	2	0	0	0	0	2	4	N/A
Grand Island	No	No	6	0	0	1	0	0	6	N/A
Hastings	No	No	2	0	0	0	0	0	4	N/A
Kearney	No	No	6	0	0	0	0	0	4	N/A
Lincoln	Yes	No	6	1	0	1	0	1	39	266
McCook	No	No	2	0	0	0	0	0	4+	N/A
Norfolk	No	No	4	0	0	0	0	1	4	N/A
North Platte	No	No	6	0	0	0	0	2	6	N/A
Omaha	Yes	Yes	6	1	0	2	0	1	128	393
Scottsbluff	No	No	6	0	0	0	0	1	7+	N/A
Sidney	No	No	2	0	0	0	0	0	+	N/A
	2	1	58	2	0	4	0	8		
<u>NEVADA</u>										
Elko	No	No	2	0	0	0	0	0	2	N/A
Ely	No	No	4	0	0	0	0	0	2	N/A
Fallon	No	No	2	0	0	0	0	0	N/A	N/A
Las Vegas	Yes	Yes	8	1	0	1	0	0	251	507



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>NEVADA (Cont.)</u>										
Reno	Yes 2	Yes 2	4 18	1 2	0 0	1 2	0 0	0 0	68	305
<u>NEW HAMPSHIRE</u>										
<del>Berlin</del>	No	No	2	0	0	0	1	1	N/A	N/A
Keene	No	No	4	1	0	1	1	1	9+	N/A
<del>Laconia</del>	No	No	2	0	0	0	1	1	N/A	N/A
Lebanon	No	No	2	0	0	0	1	1	N/A	N/A
Manchester	Yes 1	No 0	4 10	1 2	0 0	0 1	0 2	1 3	19	175
<u>NEW JERSEY</u>										
Atlantic City	Yes	Yes	6	1	0	1	0	0	11	121
Cape May	No	No	2	0	0	0	0	0	2+	N/A
Newark	Yes	Yes	4	2	0	1	2	1	525	667
Teterboro	Yes	Yes	4	1	0	1	0	0	N/A	455
Trenton	Yes 4	Yes 4	4 20	1 5	0 0	0 3	0 2	1 2	19	217
<u>NEW MEXICO</u>										
Albuquerque	Yes	Yes	8	1	0	1	1	0	126	477
Carlsbad	No	No	6	0	0	0	0	0	4+	N/A
Clovis	No	No	4	0	0	0	0	0	3+	N/A
Farmington	Yes	No	4	0	0	0	0	0	19	84
Gallup	No	No	2	0	0	0	0	0	4	N/A
Hobbs	Yes	No	6	0	0	0	0	0	10	72
Roswell	Yes	No	6	1	0	1	0	0	13	84
Santa Fe	Yes	No	6	0	0	0	0	0	13	101
Silver City	No 5	No 1	2 44	0 2	0 0	10 2	0 1	0 0	4	N/A
<u>NEW YORK</u>										
Albany	Yes	Yes	4	1	0	1	0	0	137	304

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>NEW YORK (Cont.)</u>										
Binghamton	Yes	Yes	4	1	0	1	0	0	47	123
Buffalo	Yes	Yes	4	2	0	1	0	0	225	380
Elmira	Yes	No	6	1	0	1	0	0	53	134
Glens Falls	No	No	4	0	0	0	0	1	4+	N/A
Islip	Yes	Yes	6	1	0	0	0	0	24	336
Ithaca	No	No	2	0	0	0	0	1	11	N/A
Jamestown	No	No	4	1	0	1	0	2	7+	N/A
<del>Massena</del>	<del>No</del>	<del>No</del>	<del>4</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>2+</del>	<del>N/A</del>
La Guardia	Yes	Yes	4	3	0	3	3	3	727	912
Kennedy	Yes	Yes	8	4	0	2	4	1	974	1132
<del>Ogdensburg</del>	<del>No</del>	<del>No</del>	<del>2</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>2+</del>	<del>N/A</del>
<del>Olean</del>	<del>No</del>	<del>No</del>	<del>2</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>1+</del>	<del>N/A</del>
Plattsburgh	No	Yes	6	0	0	0	0	0	3+	N/A
<del>Poughkeepsie</del>	<del>No</del>	<del>No</del>	<del>2</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>0</del>	<del>1</del>	<del>1</del>	<del>N/A</del>
Rochester	Yes	Yes	8	2	0	2	0	0	168	362
Saranac Lake	No	No	6	0	0	0	0	0	2	N/A
Syracuse	Yes	Yes	4	1	0	1	0	0	168	331
Utica	Yes	Yes	4	1	0	1	0	2	47	127
Watertown	No	No	4	0	0	0	0	1	6	N/A
White Plains	Yes	Yes	6	1	0	1	0	0	18	456
	<u>11</u>	<u>11</u>	<u>84</u>	<u>19</u>	<u>0</u>	<u>15</u>	<u>7</u>	<u>11</u>		
<u>NORTH CAROLINA</u>										
Asheville	Yes	No	2	1	0	1	1	0	43	143
Charlotte	Yes	Yes	4	1	0	1	0	1	172	422
Elizabeth City	Yes	No	4	0	0	0	2	2	3+	N/A
Fayetteville	Yes	Yes	4	1	0	1	0	0	43	179
Greensboro	Yes	Yes	4	1	0	1	0	0	85	311
Hickory	No	No	4	0	0	0	0	1	8	N/A
Kinston	No	No	4	0	0	0	0	0	10	N/A
New Bern	No	No	4	0	0	0	0	0	12	N/A
Raleigh	Yes	Yes	4	1	0	1	0	0	88	299
Rocky Mount	No	No	2	0	0	0	0	0	6+	N/A

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>NORTH CAROLINA(Cont.)</u>										
Southern Pines	No	No	2	0	0	0	0	0	2	N/A
Wilmington	Yes	No	4	1	0	1	0	0	39	157
Winston-Salem	Yes	Yes	2	1	0	1	0	0	32	234
	8	5	44	7	0	7	3	4		
<u>NORTH DAKOTA</u>										
Bismarck	Yes	No	4	1	0	1	0	0	30	131
Devils Lake	No	No	4	0	0	0	0	0	3	N/A
Fargo	Yes	No	4	1	0	1	0	1	37	158
Grand Forks	Yes	Yes	4	0	0	0	0	1	16+	N/A
Jamestown	No	No	4	0	0	0	0	0	4	N/A
Minot	No	Yes	4	0	0	0	0	0	8	N/A
Williston	No	No	2	0	0	0	1	2	3	N/A
	3	2	24	2	0	2	0	2		
<u>OHIO</u>										
Akron	Yes	Yes	6	1	0	0	0	2	47	237
Cincinnati	Yes	Yes	6	2	0	1	2	1	N/A	242
Cleveland	Yes	Yes	10	4	0	2	1	1	396	661
Columbus	Yes	Yes	8	2	0	2	0	2	177	635
Dayton	Yes	Yes	6	2	0	1	0	2	163	432
Findlay	No	No	4	0	0	2	0	1	N/A	N/A
Lima	No	No	2	0	0	0	0	0	2+	N/A
Mansfield	Yes	No	4	1	0	1	0	0	19	142
Toledo	Yes	Yes	2	0	0	0	0	0	57	314
Youngstown	Yes	Yes	4	1	0	1	0	0	41	185
Zanesville	No	No	4	0	0	0	0	0	2+	N/A
	7	7	48	12	0	9	3	9		
<u>OKLAHOMA</u>										
Bartlesville	No	No	2	0	0	0	0	0	3+	N/A
Duncan	No	No	2	0	0	0	0	0	3+	N/A
Enid	No	Yes	6	0	0	0	0	0	3+	N/A



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>OKLAHOMA (Cont.)</u>										
Lawton	Yes	Yes	2	0	0	0	0	0	17	99
McAlester	No	No	2	0	0	0	0	0	N/A	N/A
Muskogee	No	No	2	0	0	1	0	0	2	N/A
Oklahoma City	Yes	Yes	6	1	0	1	1	1	138	385
Ponca City	No	No	2	0	0	0	0	0	3+	N/A
Stillwater	No	No	6	0	0	0	0	0	3	N/A
Tulsa	Yes	Yes	8	2	0	2	0	1	133	453
	3	4	36	3	0	4	1	2		
<u>OREGON</u>										
Astoria	No	No	4	0	0	0	0	0	3+	N/A
Baker	No	No	6	0	0	0	0	0	1+	N/A
Corvallis	No	No	4	0	0	0	0	0	4	N/A
Eugene	Yes	No	4	1	0	1	0	0	24	162
Klamath Falls	Yes	No	6	1	0	1	0	1	14	113
Medford	Yes	No	4	1	0	1	0	0	20	185
North Bend	No	No	6	0	0	0	0	1	4+	N/A
Ontario	No	No	2	0	0	0	0	0	1+	N/A
Pendleton	Yes	No	6	1	0	1	0	0	6	70
Portland	Yes	Yes	6	2	0	2	0	0	251	453
Roseburg	No	No	2	0	0	0	0	0	2+	N/A
Salem	No	No	4	1	0	1	0	0	1+	N/A
	5	1	54	7	0	7	0	2		
<u>PENNSYLVANIA</u>										
Allentown	Yes	No	4	1	0	1	0	0	26	242
Altoona	No	No	2	0	0	0	0	1	4	N/A
Bradford	No	No	4	1	0	1	0	0	9+	N/A
DuBois	No	No	2	0	1	0	0	0	1	N/A
Erie	Yes	No	2	1	0	1	0	1	53	165
Franklin	No	No	2	0	0	0	0	1	2+	N/A
Hazleton	No	No	2	0	0	0	0	0	N/A	N/A
Johnstown	No	No	4	0	0	0	0	1	3+	N/A



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Nurser Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>PENNSYLVANIA Cont.</u>										
Lancaster	Yes	Yes	4	1	0	1	0	0	9	213
Middletown	Yes	Yes	2	1	0	1	2	0	60	125
Philadelphia	Yes	Yes	6	1	0	1	1	0	524	753
<del>Philadelphia</del>	No	No	4	0	0	1	0	0	5+	N/A
Pittsburgh	Yes	Yes	8	2	0	1	1	3	513	714
Reading	Yes	No	6	1	0	1	0	1	9	211
Wilkes-Barre	Yes	Yes	2	1	0	1	0	0	28	128
Williamsport	Yes	No	4	1	0	1	0	0	20	131
	<u>9</u>	<u>5</u>	<u>44</u>	<u>11</u>	<u>0</u>	<u>10</u>	<u>4</u>	<u>6</u>		
<u>PUERTO RICO</u>										
San Juan	Yes	Yes	2	1	0	1	0	0	387	560
<u>RHODE ISLAND</u>										
Providence	Yes	Yes	6	1	0	1	1	3	150	373
<u>SOUTH CAROLINA</u>										
Charleston	Yes	Yes	4	1	0	1	3	0	78	438
Columbia	Yes	No	4	1	0	1	0	0	75	225
Florence	No	No	4	0	0	0	0	0	7	N/A
Greenwood	No	No	6	0	0	0	0	0	1+	N/A
Greer	Yes	Yes	2	1	0	1	0	0	39	145
Myrtle Beach	No	No	2	0	0	0	0	0	6	N/A
Greenville	Yes	Yes	6	1	0	0	0	0	N/A	83
	<u>4</u>	<u>3</u>	<u>28</u>	<u>4</u>	<u>0</u>	<u>3</u>	<u>3</u>	<u>0</u>		
<u>SOUTH DAKOTA</u>										
Aberdeen	No	No	2	0	0	0	0	1	7+	N/A
Brookings	No	No	2	0	0	0	0	1	3+	N/A
Huron	No	No	2	1	0	0	0	1	6+	N/A
Mitchell	No	No	4	0	0	0	0	1	4+	N/A

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>SOUTH DAKOTA Cont.</u>										
Pierre	No	No	4	0	0	0	0	1	9+	N/A
Rapid City	Yes	Yes	2	1	0	1	0	1	28	132
Sioux Falls	Yes	No	4	1	0	1	0	1	71	191
Watertown	No	No	4	0	0	0	0	1	7+	N/A
Yankton	No	No	2	0	0	0	0	1	3+	N/A
	2	1	26	3	0	2	0	9		
<u>TENNESSEE</u>										
Bristol	Yes	Yes	4	1	0	1	0	0	61	172
Chattanooga	Yes	Yes	4	1	0	1	1	0	63	240
Clarksville	No	No	4	0	0	0	0	0	5+	N/A
Crossville	No	No	2	0	0	0	0	0	3	N/A
Jackson	No	No	2	0	0	0	0	0	5+	N/A
Knoxville	Yes	Yes	4	1	0	1	0	0	100	272
Memphis	Yes	Yes	6	2	0	2	1	1	316	744
Nashville	Yes	Yes	6	1	0	3	1	3	175	432
Shelbyville	No	No	2	0	0	0	0	1	3	N/A
	5	5	34	6	0	8	3	5		
<u>TEXAS</u>										
Abilene	Yes	Yes	6	1	0	1	0	0	24	134
Amarillo	Yes	Yes	4	1	0	1	2	0	47	181
Austin	Yes	Yes	4	1	0	1	1	0	89	334
Beaumont	Yes	No	6	1	0	1	0	1	38	184
Big Spring	Yes	Yes	2	0	0	0	0	0	4+	N/A
Borger	No	No	2	0	0	0	0	0	1+	N/A
Brownsville	Yes	No	8	0	1	0	0	0	8	74
Brownwood	No	No	4	0	0	0	0	0	3+	N/A
College Station	Yes	No	6	0	0	0	0	0	17	93
Corpus Christi	Yes	Yes	2	1	0	1	0	0	45	214
Dallas	Yes	Yes	6	2	0	2	2	1	819	1168
El Paso	Yes	Yes	6	1	0	1	0	1	105	427
Ft. Worth	Yes	Yes	4	1	0	1	0	0	N/A	428

Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>TEXAS (Cont.)</u>										
Galveston	No	No	6	0	0	0	0	0	2+	N/A
Harlingen	No	No	8	0	0	0	0	2	9+	N/A
Houston	Yes	Yes	6	1	0	1	1	0	382	508
Laredo	No	No	2	0	0	0	0	0	5+	N/A
Longview	Yes	No	6	1	0	1	0	0	41	138
Lubbock	Yes	Yes	4	1	0	1	0	0	59	226
Lufkin	No	No	4	0	0	0	0	0	3+	N/A
McAllen	Yes	No	2	0	0	0	0	1	15	92
Midland	Yes	No	8	1	0	1	0	0	67	243
Paris	No	No	6	0	0	0	0	0	2	N/A
San Angelo	Yes	No	6	1	0	1	0	0	17	170
San Antonio	Yes	Yes	4	2	0	1	0	0	172	540
Temple	No	No	4	0	0	0	0	0	8	N/A
Tyler	Yes	No	6	1	0	1	0	0	49	122
Victoria	No	No	8	0	0	1	0	0	2+	N/A
Waco	Yes	No	6	1	0	1	0	0	29	135
Wichita Falls	Yes	Yes	6	1	0	2	1	0	9+	N/A
	<u>20</u>	<u>11</u>	<u>148</u>	<u>18</u>	<u>1</u>	<u>19</u>	<u>7</u>	<u>6</u>		
<u>UTAH</u>										
Cedar City	No	No	4	0	0	0	0	0	4+	N/A
Moab	No	No	2	0	0	0	0	0	2+	N/A
Ogden	Yes	Yes	6	0	0	0	0	2	N/A	120
Salt Lake City	Yes	Yes	6	1	0	1	1	0	186	558
Vernal	No	No	2	0	0	0	0	0	2	N/A
	<u>1</u>	<u>1</u>	<u>14</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>1</u>	<u>0</u>		
<u>VERMONT</u>										
Burlington	Yes	Yes	2	1	0	1	0	1	28	179
Montpelier	No	No	2	0	0	0	0	1	3+	N/A
Newport	No	No	4	0	0	0	0	0	N/A	N/A
Rutland	No	No	2	0	0	0	0	0	-1	N/A
	<u>1</u>	<u>1</u>	<u>2</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>		



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>VIRGINIA</u>										
Blacksburg	No	No	2	0	0	1	0	1	2+	N/A
Charlottesville	No	No	2	0	1	0	0	1	9+	N/A
Danville	No	Yes	6	0	0	0	0	0	4	N/A
Hot Springs	No	No	2	0	1	0	1	2	3+	N/A
Lynchburg	Yes	No	2	1	0	1	0	0	35	118
Newport News	Yes	Yes	4	1	0	1	0	1	56	184
Norfolk	Yes	Yes	6	1	0	1	0	2	115	279
Richmond	Yes	Yes	6	1	0	2	0	0	78	374
Roanoke	Yes	Yes	4	1	0	1	0	1	95	251
Staunton	No	No	2	0	1	0	0	1	6+	N/A
Washington National	Yes	Yes	6	2	0	2	4	5	602	902
Dulles International	Yes	Yes	6	2	0	2	1	0	174	397
	<u>7</u>	<u>7</u>	<u>48</u>	<u>9</u>	<u>3</u>	<u>11</u>	<u>6</u>	<u>14</u>		
<u>VIRGIN ISLANDS</u>										
St. Thomas (Truman)	Yes	No	2	0	0	0	1	1	43	282
St. Croix (Hamilton)	Yes	No	2	0	0	0	1	0	79	173
	<u>2</u>	<u>0</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>1</u>		
<u>WASHINGTON</u>										
Bellingham	No	No	4	0	0	0	0	1	N/A	N/A
Ephrata	No	No	6	0	0	0	0	0	3+	N/A
Hoquiam	No	No	2	0	0	0	0	0	3+	N/A
Moses Lake	Yes	No	4	1	0	1	0	0	N/A	93
Olympia	No	Yes	4	0	0	0	0	0	3+	N/A
Pasco	No	No	6	0	0	1	0	0	14+	N/A
Port Angeles	No	No	4	0	0	0	0	0	N/A	N/A
Pullman	No	No	2	0	0	0	0	0	8	N/A
Seattle (Boeing)	Yes	Yes	2	1	0	1	1	1	39	528
Seattle (Tacama Int'l.)	Yes	Yes	4	1	1	2	0	0	304	429
Spokane	Yes	Yes	4	1	0	1	0	0	85	161
Walla Walla	Yes	No	6	0	0	1	0	0	8+	N/A
Wenatchee	No	No	6	0	0	0	0	0	3+	N/A



Location	Control Tower	Radar Service	Runway Ends	Number of ILSs	Number Localizers	Approach Lights	VASI	REIL	Airline Flights Daily	Itinerant Flights Daily
<u>WASHINGTON (Cont.)</u>										
Yakima	Yes 5	No 4	6 48	1 4	0 1	1 8	0 1	0 1	27 —	143 —
<u>WEST VIRGINIA</u>										
Beckley	No	Yes	2	0	0	0	0	0	4+	N/A
Bluefield	No	No	2	0	0	0	0	0	7	N/A
Charleston	Yes	Yes	4	1	0	1	0	0	69	209
Clarksburg	No	No	2	0	0	0	1	0	9	N/A
Elkins	No	No	4	0	0	0	0	0	2+	N/A
Huntington	Yes	No	2	1	0	1	0	0	41	135
Martinsburg	Yes	Yes	4	0	0	1	0	0	2+	N/A
Morgantown	No	No	2	0	0	0	1	0	9	N/A
Parkersburg	Yes	No	4	0	1	0	0	1	17	73
Wheeling	Yes 3	No 2	4 18	1 2	0 1	1 2	1 2	1 1	6 —	73 —
<u>WISCONSIN</u>										
Appleton	Yes	No	4	1	0	1	0	2	N/A	N/A
Eau Claire	No	No	4	0	0	0	0	1	6+	N/A
Green Bay	Yes	No	4	1	0	1	0	1	64	160
Janesville	Yes	No	6	0	0	0	0	1	13	146
La Crosse	No	Yes	6	0	0	0	0	2	N/A	N/A
Madison	Yes	Yes	8	1	0	1	0	0	76	296
Manitowoc	No	No	2	0	0	0	0	1	5+	N/A
Milwaukee	Yes	Yes	8	1	0	2	1	2	217	486
Oshkosh	Yes	No	4	1	0	0	0	1	22	120
Rhinelander	No	No	4	0	0	0	0	0	4+	N/A
Sheboygan	No	No	2	0	0	0	0	1	N/A	N/A
Stevens Point	No 6	No 2	4 46	0 4	0 0	0 4	0 1	1 9	7+	N/A
<u>WYOMING</u>										
Casper	Yes	No	8	1	0	1	0	0	30	132



## ATTACHMENT I

DEFINITION OF ABBREVIATIONS

ALPA	-	Air Line Pilots Association
ALSF	-	Approach Light System with Flashers
ASR/ATCRBS	-	Airport Surveillance Radar/Air Traffic Control Radar Beacon System
ATA	-	Air Transport Association
CAT I - ILS	-	Category I - Instrument Landing System (Basic System)
CAT II - ILS	-	Category II - Instrument Landing System (Lower Minimum)
FAA	-	Federal Aviation Agency
ILS	-	Instrument Landing System
NASP	-	National Aviation System Plan
REIL	-	Runway End Identifier Lights
VASI	-	Visual Approach Slope Indicator









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